EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

HACHETTE BOOK GROUP, INC., HARPERCOLLINS PUBLISHERS LLC, JOHN WILEY & SONS, INC., and PENGUIN RANDOM HOUSE LLC Plaintiffs, v. INTERNET ARCHIVE and DOES 1 through 5, inclusive Defendants.	Case No. 1:20-CV-04160-JGK

SUPPLEMENTAL EXPERT REPORT OF PROF. IAN FOSTER

March 31, 2022

HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

1

Table of Contents

Table of Appendices, Exhibits, and Produced Materials

Appendices
- Appendix A – List of Documents Reviewed
- Appendix B – Ian Foster CV
- Appendix C – Notes on Methodology for Preparing Tabulation Table
- Appendix D – Notes on Methodology for Comparing Plaintiffs' Catalogs with IA's inlibrary Collection
- Appendix E – Glossary
- Appendix F – Take Down Notices

Exhibits
- Exhibit A – The metadata returned for the IA scan with identifier "isbn_9780143120544"
- Exhibit B – Contents of IA's Denver Public Library directory (denverpubliclibrary-ol_files.xml)
- Exhibit C – List of Scans and Works-in-Suit for which Web Log Data indicate usage of "Read Aloud" feature
- Tabulation–Related Exhibits: T1 – T10

Produced Materials
- Catalog Data – Plaintiffs' catalogs, including PRH July 2014 catalog, and Ex. A to Complaint
- Code – Programs used to generate exhibits and findings described in report
- Exhibits – Charts, Tabulation file (TSV and XLSX versions), and IndexCards (T10) file generated by Code
- GeneratedData – Data files and charts output by Code
- ia – Command-line tool developed by IA, used by programs in Code
- IA_data_productions – CSV and JSON files produced by IA and Bates index of IA's production of CSV, JSON, and PDF/TXT files
- index_card_template – Microsoft Word template file for Exhibit T10
- RUNALL.sh – Top-level program to run programs in Code
- WorkingFiles – Files retrieved from IA by programs in Code and output of programs in Code
- Exhibit_C_Project: Programs and data underlying findings in Exhibit C
- PRH_Takedown_Project: Data files

2-1

I.   INTRODUCTION

1.   My name is Ian Foster. I am the Arthur Holly Compton Distinguished Service Professor

of Computer Science at the University of Chicago and a Distinguished Fellow, Senior Scientist,

and Division Director at Argonne National Laboratory.

2.   For time spent in connection with study and analysis in this matter, I will be compensated

in the amount of $600 per hour. For time spent in connection with testifying in this matter, I will

be compensated in the amount of $600 per hour. My compensation does not depend on either the

outcome of this case or any issue related to it.

3.   Plaintiffs in this action have asked me to conduct a technical analysis concerning

Defendant Internet Archive's digitization of print books and use of the resulting digital books.

My assignment includes providing an overview of that analysis and considering the following

five questions:

- Where does copying and distribution of books occur within Internet Archive's processes?

- What is the history of Internet Archive copying and distributing the books listed in the Complaint?

- How has Internet Archive copied and used books from Plaintiffs' respective in-print catalogs?

- How has Internet Archive's distribution of digitized books evolved over time?

- Are Internet Archive's methodologies for digitizing print books and then lending the resulting digital books well-developed and reliable from a technological perspective?

4.   In my report, I use the term "IA" to refer to Defendant Internet Archive.

5.   In conducting my analysis, I have accessed IA's online services at different times since

2020 and reviewed the materials listed in Appendix A to this report. In the event that new

material and information becomes available to me, I may supplement or revise my findings and opinions.

6.   The observations and conclusions set forth below are based upon my specialized knowledge, education, and experience, as applied to the facts and circumstances of this case. If called upon, I would testify as to the matters contained herein.

7.   Between now and such time that I may be asked to testify, I expect to continue my review, evaluation, and analysis of information generated during discovery, as well as of relevant evidence presented before and/or at trial. I also may review any expert reports submitted by IA's expert(s). I reserve the right to amend or supplement this report, as necessary and as acceptable to the Court. I also reserve the right to develop materials and exhibits as appropriate for use in helping to demonstrate and explain my opinions, including in the event that I am asked to testify at trial or other hearings or proceedings. Examples of such visual aids and demonstratives may include slides, as well as videos and animated or computer-generated video.

8.   I have given deposition testimony or been cross-examined at trial in two cases over the past four years:

- SEVEN Networks, LLC v. Apple Inc., Case No 2:19-cv-00115 (E.D. Texas)

- American Broadcasting Companies, Inc. et al. v. David R. Goodfriend and Sports Fans Coalition NY, Inc., Case No. 19-cv-7136 (S.D.N.Y.)

II.   QUALIFICATIONS

9.   I summarize here my educational background, career history, publications, and other relevant qualifications. My full curriculum vitae is attached as Appendix B to this report.

A. Educational Background

10. I hold a Bachelor of Science (B.Sc. Hons I) degree in Computer Science from the University of Canterbury (Christchurch, New Zealand), and a Doctor of Philosophy (Ph.D.) degree in Computer Science and Diploma of Imperial College from Imperial College (London, United Kingdom).

11. My work as a computer scientist has been at the intersection of computing and the sciences. My work has produced both practical technologies that have seen wide adoption and concepts and methods that have proven influential in research and education.

12. My research interests span a range of topics in parallel, distributed, and data-intensive computing. A unifying theme of these topics is a desire to use the power of rapid communication to accelerate discovery, whether by linking people with remote computers and data, accelerating complex computational processes, or enabling distributed virtual teams. I often build sophisticated artifacts (software and distributed systems) in order to apply, evaluate, and disseminate new concepts and methods.

13. A major focus of my research since the mid-1990s has been the methods and technologies for resource sharing in networked environments. In 1995, I led software research and development for the I-WAY wide-area distributed computing experiment, which connected supercomputers, databases, and other specialized resources at 17 sites across North America. In 1996, I founded the Distributed Systems Laboratory at Argonne and the University of Chicago, where I established the multi-institutional Globus project, which developed core technologies for resource discovery, scheduling, configuration, security, data access, and execution in high-performance networked environments. The resulting technologies formed the basis for many

national and international "Grid" projects funded by DOE, NASA, NSF, the European Union, and the UK eScience Program.

14. With the emergence of large-scale commercial clouds ("grids with a business model") in the 2000s, and the growing importance of large digital data in science, my research in distributed computing has increasingly focused on methods for outsourcing and automating research data management tasks. This effort has led to the development of cloud-based Globus services, which are seeing broad adoption both in the U.S. and internationally.

15. I have served as Principal Investigator (PI) or Co-PI on projects connected to the National Computational Science Alliance; the National Science Foundation (NSF) Community Development of Globus Software (CDIGS) project; the Department of Energy (DOE) Center for Enabling Distributed Petascale Science (CEDPS); the DOE/NSF Open Science Grid and the NSF TeraGrid; and other DOE and NSF programs. I am currently PI for the DOE Robust Analytic Models for Science at Extreme Scales (RAMSES) project and the DOE Codesign Center for Online Data Analysis and Reduction (CODAR).

B. Publications and Patents

16. I have published eight books, over 300 journal articles, and over 300 articles in conference and workshop proceedings. My publications have been cited more than 130,000 times. A list of my publications is provided in Appendix B to this report.

C. Honors and Awards

17. I am an elected Fellow of the American Association for the Advancement for Science, the Association for Computing Machinery, the British Computer Society, and the Institute of Electrical and Electronic Engineers. My awards include the Lovelace Medal of the British Computer Society, the IEEE-CS Goode Award, the IEEE-CS Charles Babbage Award, the IEEE

6

Tsutomu Kanai Award, the IEEE TCSC Award for Excellence in Scalable Computing, and the

inaugural ACM HPDC Lifetime Achievement Award. I have received honorary doctorates from

the University of Canterbury, New Zealand, and CINVESTAV, Mexico.

III.   THE INTERNET ARCHIVE'S BOOK SYSTEM IN CONTEXT

18. IA offers several different online services.[1] My focus in this report is on IA's services

pertaining to books and the technological implementation of these services, which I refer to as

the "Book System." The Book System comprises both frontend elements (web pages) via which

users interact with the system, and backend components for, among other things, digitizing print

books, maintaining a catalog of digitized books, and maintaining the system.

19. The scale of IA's Book System is vast: IA has already created digital books that are

wholesale copies of millions of physical books of all types, including fiction and non-fiction. IA

disseminates the digital books to registered users of its website. Anyone, located anywhere in the

world, can sign up for a free account with IA and receive free access to complete copies of books

that are currently commercially available.

20. I begin this report with a user's-perspective walkthrough of accessing books from IA,

followed by a technical look at how this access is implemented. I then proceed to cover key

backend elements. Though the technical analysis may seem complicated, the process of

obtaining digital books from IA is seamless to the user. Any Internet-connected user can quickly

sign up for an IA account and within moments obtain digital books in whole for reading.

21. IA's Book System contains both digital copies of books uploaded by users and digital

books generated by IA by scanning physical books. I restrict my analysis here to the latter

content.

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[1] Internet Archive Projects: see https://archive.org/projects.

22. IA's Book System contains both digital copies of books that are in the public domain and digitized modern books that are still under copyright protection. I restrict my analysis here to the latter content, which appears within an area of IA's website that IA describes as its "inlibrary" (or "Books to Borrow") collection.

23. A premise to how IA operates its Book System is that IA generally restricts the number of scanned copies of a particular book accessible from its website at any one time to not more than the number of physical copies of that book that IA and its partner libraries believe they own. IA calls this a 1:1 "owned to loan ratio." Below, I explore IA's technical approach to that concept, including IA's use of what it calls its "Open Libraries" program with partner libraries, under which IA lends multiple copies of a single scan of a particular book at a time based on the number of print copies that the partner libraries have reported to be in their possession. I also explore the history of IA's copying and distribution of Plaintiffs' literary works generally and works-in-suit ("WIS") specifically.

24. At the outset, it is important to recognize that IA has made changes to its Book System over time, including during this litigation. The size of the inlibrary collection has grown significantly within the past few years. IA's approach to providing users with access to digital books has also changed and could change further at any time. For instance, shortly after the litigation was filed in June 2020, IA introduced the concept of 1-hour loans rather than just 14-day loans. Prior to June 2020, each loan of a digitized book in the inlibrary collection was for a 14-day period only. By way of another example, for a roughly three-month period that commenced on or about mid-March 2020, IA announced what it termed a "National Emergency Library" whereby IA altered how its website operates, so that IA could distribute a virtually

8

limitless number of copies of any book in its collections, no matter the number of print copies on hand.

IV.   ACCESSING BOOKS IN THE BOOK SYSTEM

A. User's-perspective walkthrough

25. A user may approach the Book System in a variety of ways. Two significant ways are via the main IA website (https://archive.org) (the "IA Site") and IA's Open Library site (https://openlibrary.org) ("OL Site"). Users may also arrive at the Book System through an internet search or via hyperlinks on a partner library's website, the website of IA's affiliate, Better World Books, or other websites that link to books hosted on the IA Site.

A.1 Main Internet Archive site

26. The IA Site's home page, shown in *Figure 1*, provides access to a variety of IA's services. The header includes a "BOOKS" tab that, when clicked, prominently shows icons for "Books to Borrow" and "Open Library": *see Figure 2*. The first icon leads to a page for the "Books to Borrow" collection of electronic books on the main IA Site, as shown in *Figure 3*. The second leads to the distinct OL Site, which I describe in more detail in the next section. The BOOKS tab also includes links for "Featured" and "Top" collections, including "All Books."

9

Figure 1: IA Site home page, at https://archive.org. Note the "Books" item in the upper left menu bar.

Figure 2: Expanding the "Books" menu item in Figure 1 reveals two IA book services: "Books to Borrow" and "Open Library."

10
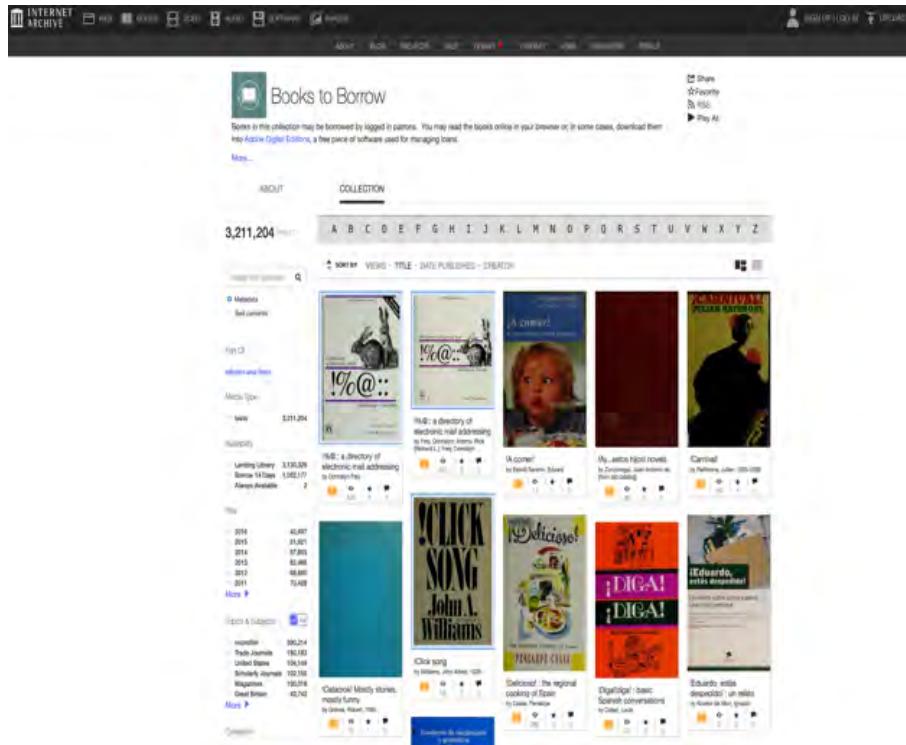
Figure 3: The Books to Borrow main page, at https://archive.org/details/inlibrary, as of February 21, 2022.

27. IA organizes its various content into "collections." The "Books to Borrow" page provides access to digitized books within the "inlibrary" collection, which the page shown in *Figure 3* reported as holding 3,211,204 items as of Feb 21, 2022. The collection is named "inlibrary" because its earlier version was a literal "In-Library Lending" program, in which scans were provided to users of computers physically located within libraries partnering with Internet Archive.[2] In 2011, the details page for the inlibrary collection described it as "Books available to patrons physically present in designated libraries."[3] IA's Wayback Machine online repository tracks the appearance of the inlibrary collection URL at different points in time. While the inlibrary collection currently contains over 3 million scanned copies of books: on May 26, 2020, in the week before the Plaintiffs filed this lawsuit, the collection contained 1,476,344 scans; on

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[2] Mills Deposition Transcript, October 14, 2021, 223:14-224:5; Pls. Ex. 26 (INTARC00333600).
[3] https://web.archive.org/web/20110205033744/https://archive.org/details/inlibrary.

11

April 1, 2019, the collection contained 965,499 scans; and on April 1, 2018, the collection

contained 648,117 scans.[4]

28. The text at the top of the page notes that "Books in this collection may be borrowed by

logged in patrons. You may read the books online in your browser or, in some cases, download

them into Adobe Digital Editions, a free piece of software used for managing loans."[5] The

description at the "About" icon on the "Books to Borrow" page, at

https://archive.org/details/inlibrary?tab=about, indicates:

> Books in this collection may be borrowed by logged in patrons. You may read the books
> online in your browser or, in some cases, download them into Adobe Digital Editions, a free
> piece of software used for managing loans.
>
> Please note that works in this collection are protected by copyright law (Title 17 U.S. Code)
> and copying, redistribution or sale, whether or not for profit, by the recipient is not permitted
> unless authorized by the rightsholder or by law.
>
> See FAQs about borrowing books.
>
> Libraries can participate in our Open Libraries program and lend these digital titles to their
> patrons by filling out our online form.

29. Users can use the search feature on the "Books to Borrow" page to locate titles within

that collection. Apart from that search interface, users can employ other techniques to find

books, including browsing through lists of books grouped into various "Topics and Subjects."

30. For example, as shown in *Figure 4*, a search within Books to Borrow for "*Triumph of the*

City Glaeser" returns a single result, represented by a thumbnail image of the book's cover, its

title (*Triumph of the City*), and the author's name (Edward Glaeser). Clicking on the thumbnail

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[4] *See*, respectively, https://web.archive.org/web/20200526033334/https://archive.org/details/inlibrary;
https://web.archive.org/web/20190401081136/https://archive.org/details/inlibrary; and
https://web.archive.org/web/20180401011942/https://archive.org/details/inlibrary.
[5] As I explain below, until June 2020, the IA Site's functionality enabled downloads of any borrowed book into
Adobe Digital Editions. During this case, in June 2020, IA changed its system to introduce 1-hour loans for some
books, with copies borrowed on 1-hour loans available only for online viewing in your browser.

12

image or associated text for this title takes the user to the web page at address

"https://archive.org/details/isbn_9780143120544," an address that comprises three components:

the domain at which the page is hosted ("archive.org"); the word "details"; and a unique

identifier assigned by Internet Archive to this scan, "isbn_9780143120544."
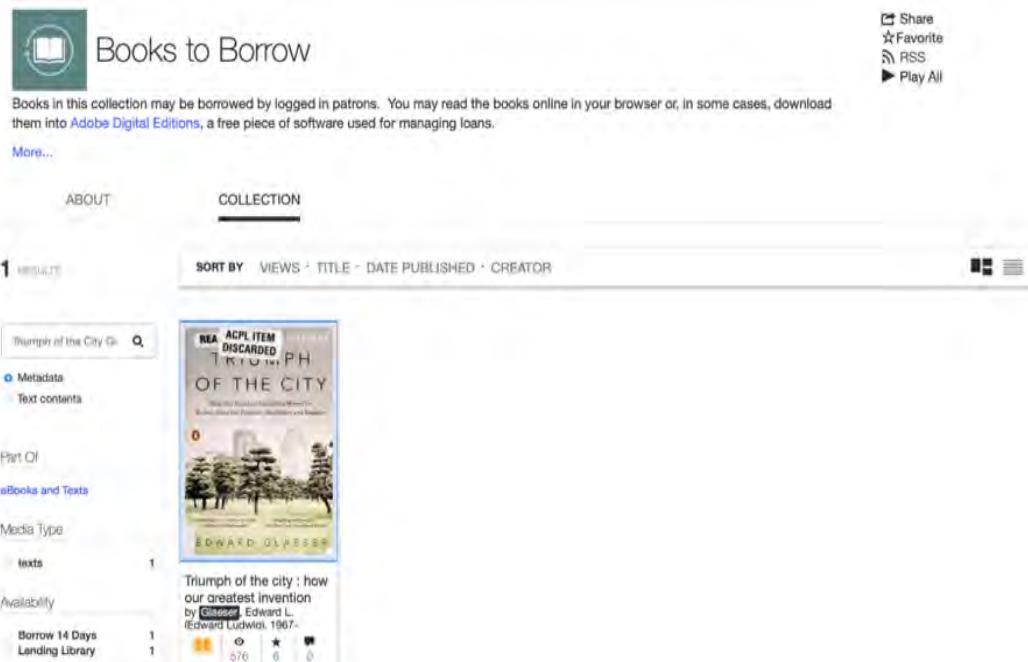
Figure 4: A search on the IA Site's "Books to Borrow" page for "Triumph of the City Glaeser" reports 1 result.

31. Visiting the web page at https://archive.org/details/isbn_9780143120544 displays the

reader screen shown in *Figure 5*, in which the user can read the book. This "BookReader

application" allows the user to use the arrow keys on their keyboard, or to click on navigation

buttons in the reader, to move to different pages in the book (*see Figure 6*). The menu in the

bottom right allows the user to toggle between viewing a single page, two pages at a time, or

many pages at once, and also to listen to the book, as described below.

13
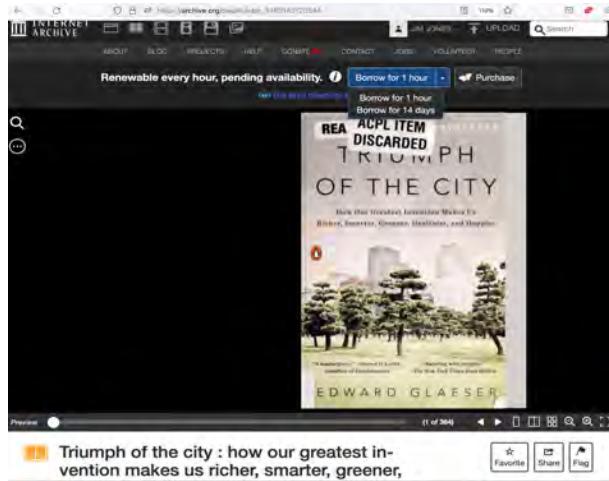
Figure 5: Selecting the Glaeser title in Figure 4 takes me to the IA Site's page for that title, at https://archive.org/details/isbn_9780143120544.
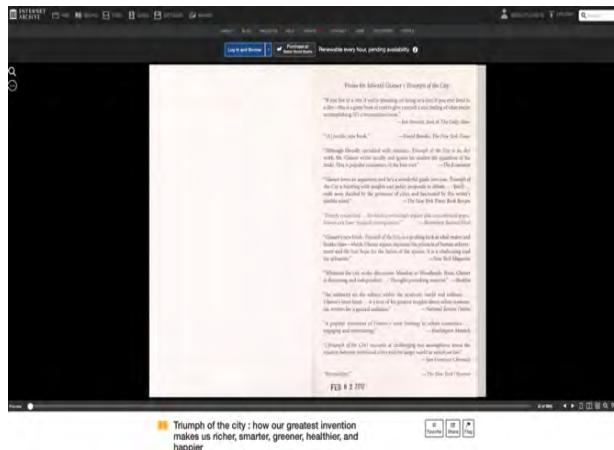
Figure 6: Clicking on the "forward" arrow in the lower right pages me through successive pages of the book.

32. IA requires users to be logged in to an IA account to access many of its functions, including full access to free copies of complete digital books in the inlibrary collection. For example, if I navigate forward through *Triumph of the City* without logging in, I am soon told to "use your free account to borrow this book and gain access to all pages" (*Figure 7*).[6] At the top of the screen, I see a "Log In and Borrow" button. If I log in, this is replaced by a "Borrow for 1 hour" button (with text beside it noting that it is "Renewable every hour, pending availability");

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[6] Anyone can sign up for account at the IA Site by providing just an email address, "screen name," and password. A verification mail is sent to the supplied email address, and once the user clicks on a link included in that email, the account is usable.

clicking on the right of that button also gives me the option of requesting a 14-day loan, as shown in *Figure 5*. Once I click on the "Borrow for 1 hour" button, I can access the remainder of the book (*Figure 9*). Note that in contrast to the limited previews provided by Google Books (https://books.google.com), IA provides access to every page in a book once users have logged in. As seen at the top of *Figure 9*, I have the options, once I have borrowed for an hour, to either "Return now" or "borrow for 14 days."
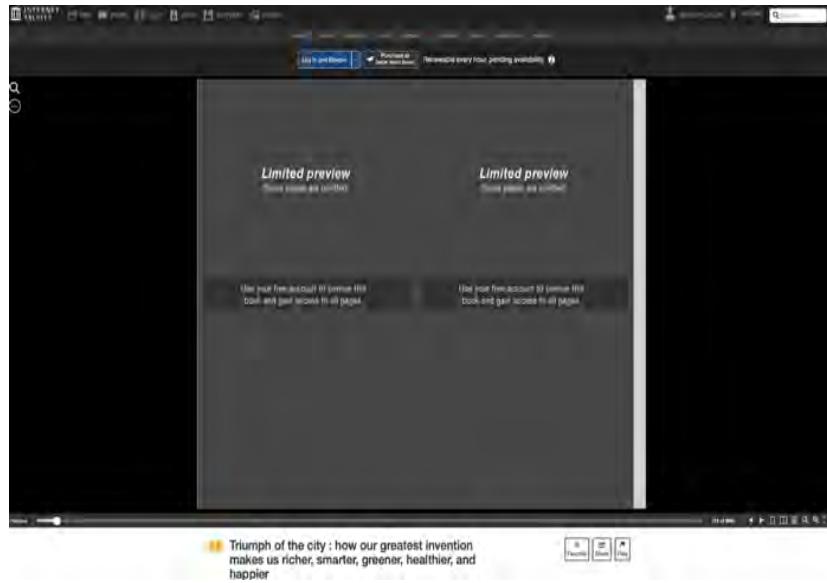
Figure 7: After a few pages, I am told that one needs to "use your free account to borrow this book and gain access to all pages."
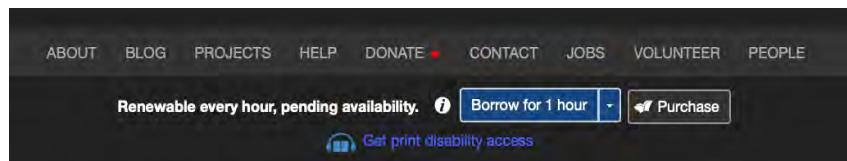
Figure 8: Once I log in, I am presented with a button "Borrow for 1 hour."

15
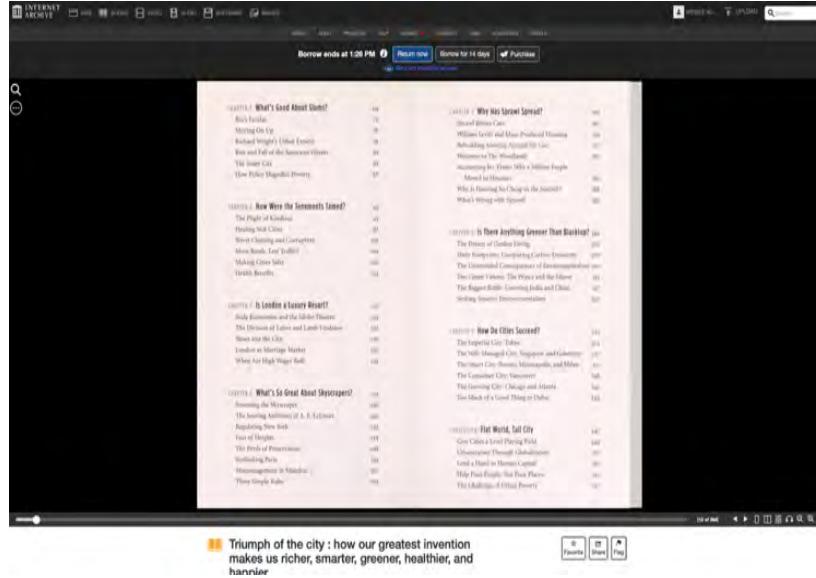
Figure 9: Once I log in and "Borrow for 1 Hour," I can view the rest of the book. Note also the "Return now" and "Borrow for 14 days" buttons.

33. The BookReader app on the IA Site also has a "Read Aloud" feature. As shown in *Figure 10*, a user can click on the headphones icon in the lower right to activate this feature. The sentences being read along are highlighted, and controls at bottom center allow them to pause reading, move forward and backwards, and control reading speed.
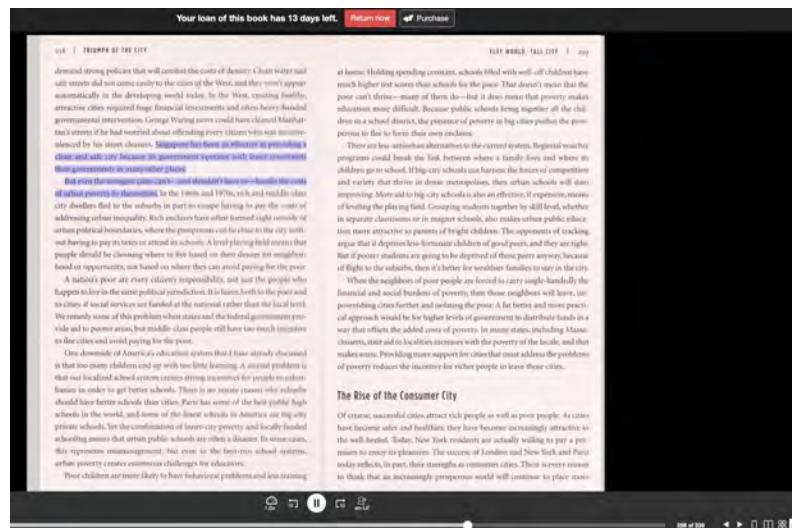
Figure 10: The BookReader app allows the user to request audio playback, by clicking the headphones icon visible in the lower right. The screen then highlights each sentence as it is read aloud.

16

34. Scrolling down the screen from the text viewer shown in *Figure 9* reveals information about the book (*Figure 11*), including text on "DOWNLOAD OPTIONS" (*Figure 12*). Users can download the book as an EPUB file or a PDF files A "14 day loan [is] required to access EPUB and PDF files." There is also a special format, the "ENCRYPTED DAISY" file, for print-disabled users.
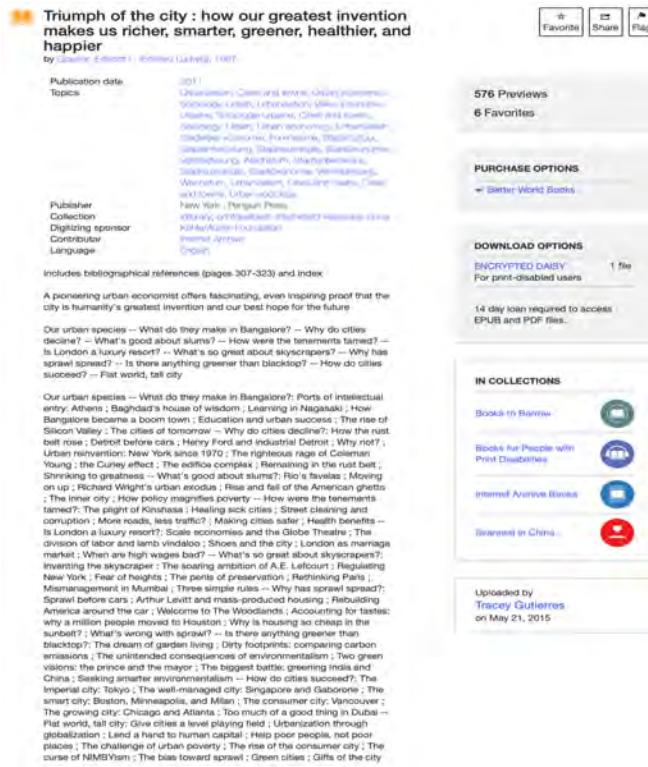
Figure 11: Scrolling down the screen from Figure 9 reveals various descriptive information about the book.
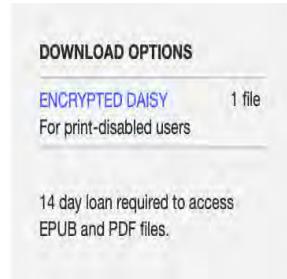
Figure 12: Zooming in on the "DOWNLOAD OPTIONS" in Figure 11 reveals that "print-disabled users" can download an "ENCRYPTED DAISY" file, but that other users must obtain a 14-day loan before downloading.

17

35. Clicking first on "Return now" (to end my 1-hour loan) and then on "borrow for 14 days" starts a 14-day loan, with the number of days remaining noted at the top of the page (*Figure 13*). I can then continue to read the full text of the book in my browser, but without the need to renew the loan every hour. Alternatively, I am now presented with additional "DOWNLOAD OPTIONS" (*Figure 14*), namely "ENCRYPTED ADOBE EPUB" and "ENCRYPTED ADOBE PDF." Clicking on the latter results in a file download to my computer, which I can open in the "Adobe Digital Editions 4.5" application. The scanned book is then in my Adobe Digital Editions "Library" (*Figure 15*), from where I can open and read it on my computer (*Figure 16*) and a variety of other devices. As IA explains (*Figure 14*), the PDF has "High Quality Page Images" whereas the EPUB is a "Smaller File" that "May Contain Errors."

36. In more detail, a request to download "ENCRYPTED ADOBE" (EPUB or PDF) results in the download of a small token file, with an ".acsm" extension. Opening that file on my computer launches the Adobe Digital Editions application, which downloads the encrypted PDF or EPUB file. Within Adobe Digital Editions, I can ask to see the location ("show in folder") of the downloaded encrypted file (for a PDF download of *Triumph of the City*, this is a 24MB file).
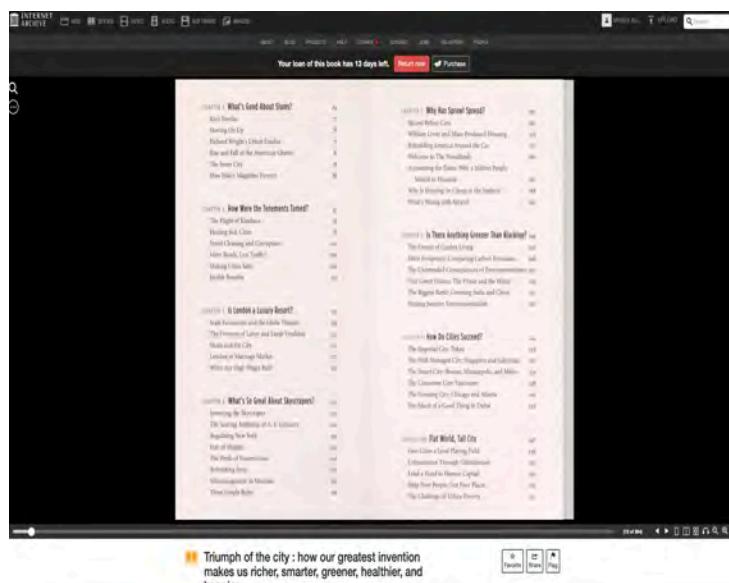
Figure 13: I can borrow "Triumph of the City" for 14 days.

Figure 14: Once I have borrowed the book "Triumph of the City" for 14 days, the "DOWNLOAD OPTIONS" (center right) changes to include additional options.
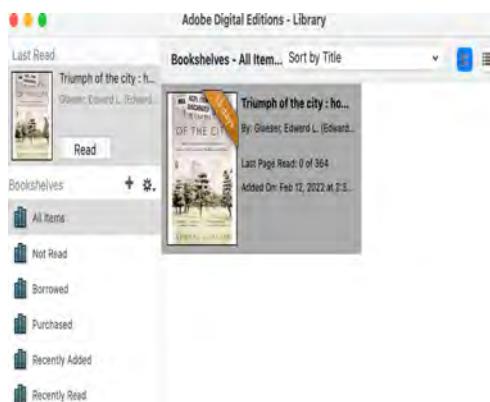
Figure 15: Once I have downloaded and opened the ".acsm" file, I see "The Triumph of the City" in my Adobe Digital Editions library.
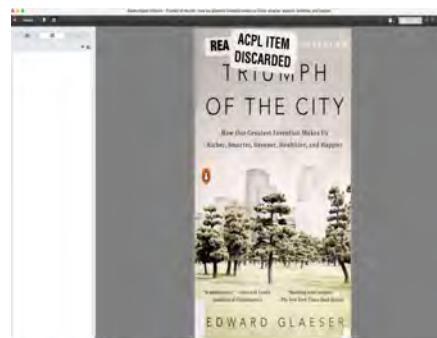
Figure 16: I can then click on the book in my library to read it on my computer.

19

37. Multiple users can obtain and read copies of the same IA scan of a book at the same time. For example, I verified that I could log in to the IA Site with two other accounts and obtain a second and third 14-day loan for *Triumph of the City*, for a total of three 14-day loans active at the same time. (I did not try more than three accounts total.)

38. Each digital book that users access via the IA Book System is actually a copy of a scan of a physical work. Each scan is identified by a unique identifier generated by IA. For example, the web page shown in *Figure 5* has internet address, https://archive.org/details/isbn_9780143120544. Here, the prefix "isbn_9780143120544" corresponds to the IA identifier for this specific scan of the book, *Triumph of the City*.

39. While a search for the title *Triumph of the City* reveals only a single scan, other titles may have several. For example, a search for "*Rogue Lawyer* Grisham" reveals eight scans: see *Figure 17*.
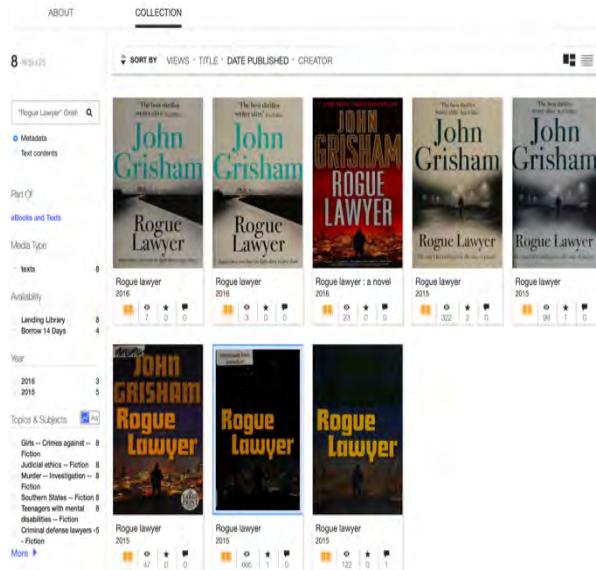
Figure 17: A search for '"Rogue Lawyer" Grisham' indicates eight matching scans.

40. I determine, by visiting each, that these eight scans have the identifiers listed in Table 1, and that while all are available for 1-hour loans, only four are available for 14-day loan. For each

of the four scans that support 14-day loans, I used three different accounts to request multiple 14-day loans at the same time. As shown in the third column of the table, I was able to obtain three concurrent loans of three scans, but for the scan with identifier "roguelawyer0000gris_q8q2" I could only obtain one, after which I was presented with two options: a 1-hour loan, or to be added to a waitlist (Figure 18, Figure 19).

Table 1: The eight scans that I found associated with the book "Rogue Lawyer" by John Grisham.

Identifier	Loan availability	Number of concurrent 14-day loans achieved
roguelawyernovel0000gris	1 hour	
roguelawyer0000gris_u4k1	1 hour	
roguelawyer0000gris_p8i2	1 hour	
roguelawyer0000gris_h5b8	1 hour	
roguelawyer0000gris_q8q2	1 hour, 14 days	1
roguelawyer0000gris_d3l1	1 hour, 14 days	3
roguelawyer0000gris_x5h7	1 hour, 14 days	3
roguelawyer0000gris	1 hour, 14 days	3
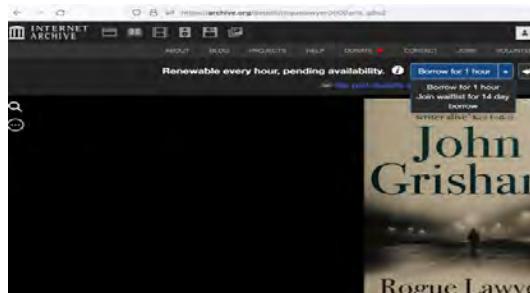
Figure 18: I find that the scan with identifier "roguelawyer0000gris_q8q2" is not available for 14-day loan. I can either request a 1-hour loan, or ask to be placed on the waitlist for a 14-day loan.

21

Figure 19: When I ask to join the waitlist for a 14-day loan of a scan, I see this message.

41. Information about other scans for the same title is also provided when one visits the details page for a particular scan. For example, the screen displayed for the *Rogue Lawyer* scan with identifier "roguelawyernovel0000gris" (only available for 1-hour loan: *Figure 20*) provides, immediately below it, pointers to seven other scans of the same title (*Figure 21*).
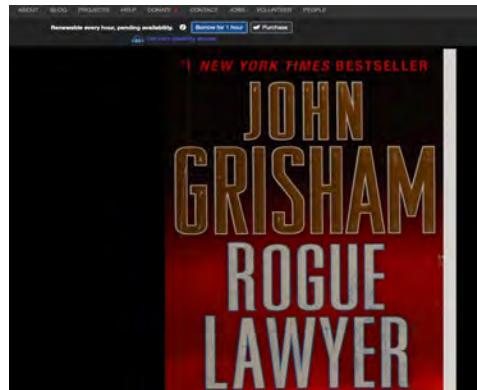
Figure 20: When I accessed the scan with identifier roguelawyernovel0000gris, I see that it is available only for 1-hour loan.

22
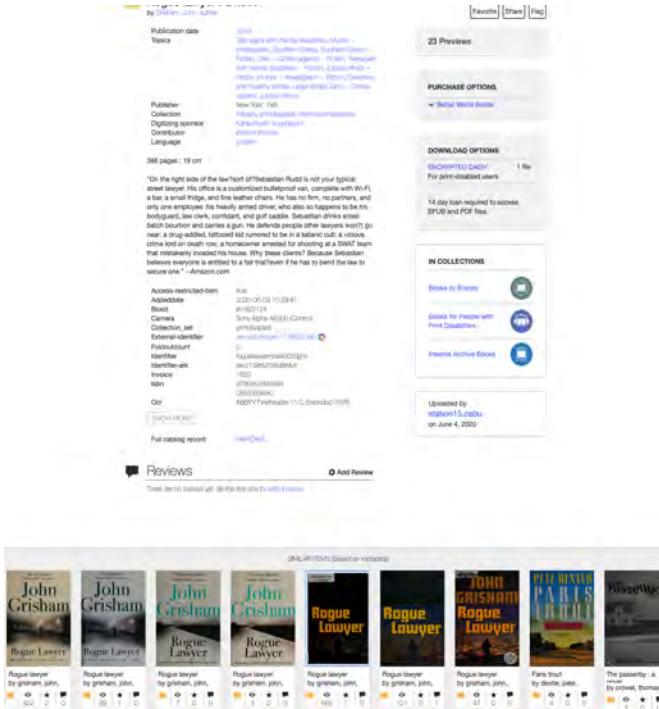
Figure 21: Scrolling down the screen for the scan in shows pointers to other scans of the same title.

42. To summarize the behaviors seen for *Triumph of the City* and *Rogue Lawyer*:

   • *Triumph of the City* has only one digital book in IA's inlibrary collection but permits at least three concurrent 14-day loans.

   • *Rogue Lawyer* has eight digital books in IA's inlibrary collection, of which four allowed for only 1-hour loans, three allowed for at least three concurrent 14-day loans, and one allowed for only one 14-day loan.

43. IA explains its lending policies as follows:[7]

   Patrons now have a choice in selecting the loan period when they borrow a book. Patrons can choose a short-term access for 1 hour, or a longer 14-day loan. If we only have 1 copy of that edition of a book, it is only available for 1 hour loan. If we have more than one copy of a book, it can be checked out for either 1 hour or 14 days, depending on availability. If there are no copies available for 14-day loans, users can join a waitlist. There is no waitlist available for books that only offer 1-hour loans.

44. Consistent with this description, it appears that each row in the table above corresponds

to a different scan of the book with title *Rogue Lawyer* and that IA has only one copy of each of

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[7] https://help.archive.org/hc/en-us/articles/360016554912-Borrowing-From-The-Lending-Library-A-Basic-Guide.

the four scans corresponding to the first four rows. For the scans corresponding to the other four

rows, IA apparently believes it has more than one copy.

45. To support "print-disabled users" (*i.e.*, persons who cannot effectively read print), IA

allows such users to download an "ENCRYPTED DAISY" file. Digital Accessible Information

System (DAISY) is a technical standard for digital audiobooks and other texts.[8] It allows for the

content of a text to be enhanced with a range of information to allow to listen to the text,

navigate its contents, and search within the text. An "Encrypted DAISY" uses the DAISY

Protected Digital Book (PDTB) encryption standard[9] to encrypt the book's content so that a

decryption key is required to access that content. Information about how qualified users can

obtain such a key is accessible by clicking on the "Get print disability access" when viewing a

book page (*Figure 22*).

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[8] ANSI/NISO Z39.86-2005 (R2012), Specifications for the Digital Talking Book,
http://www.daisy.org/z3986/2005/Z3986-2005.html.
[9] The National Library Service for the Blind and Print Disabled, Specification 1205, Protected Digital Talking Book,
https://www.loc.gov/nls/about/organization/standards-guidelines/contract-specifications/.
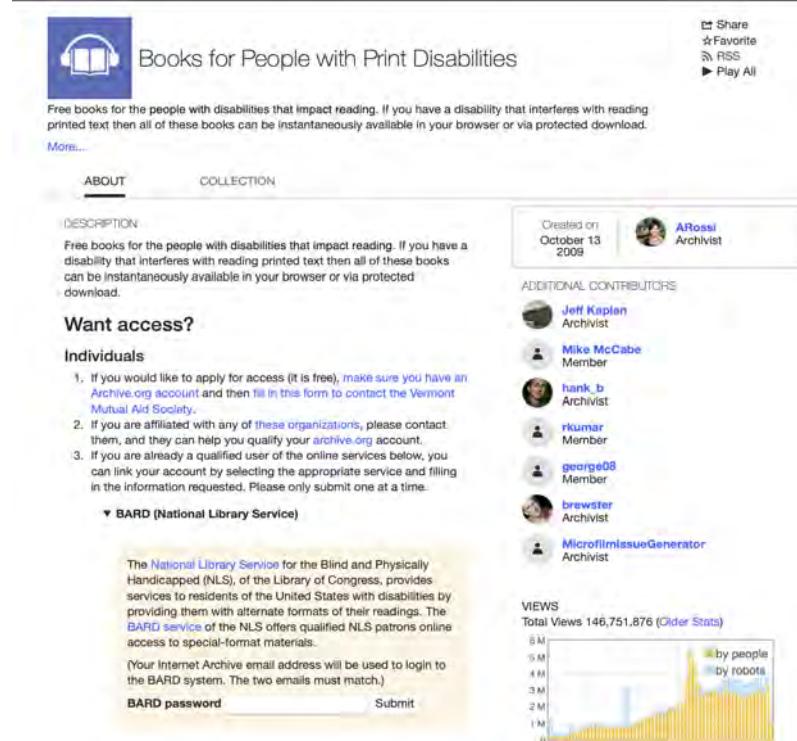
Figure 22: Clicking on the link labeled "Get print disability access" in Figure 8 takes the user to this page.

A.2 Access from Partner Library Sites

46. Certain libraries integrate links to the IA Site into their website search systems, so that users searching for certain titles are directed to the IA Site. Dartmouth Library is an example of one such library. *Figure 23* shows me accessing, from the Dartmouth Library search page, the familiar *Triumph of the City*.
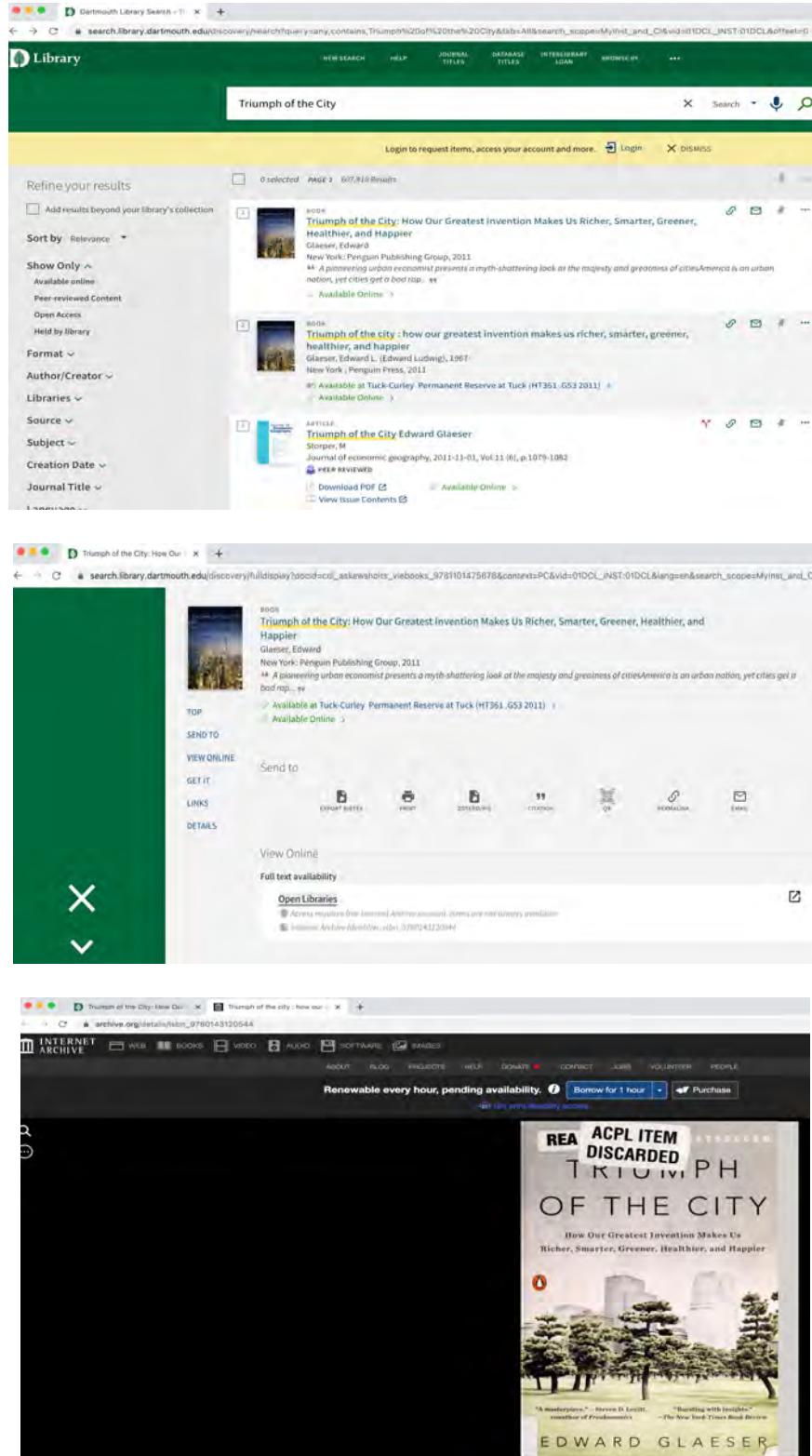
Figure 23: From top to bottom: I search for Triumph of the City book on Dartmouth Library web site; I am told that the full text is located in Open Libraries; I access the book on IA.

A.3 Access from the Internet

47. Internet search engines index IA Site pages that correspond with IA's scans of books. Thus I can also use simple internet searches to locate digital books contained in the inlibrary collection on the IA Site. For example, *Figure 24* shows how a Google search for "Archive The man who loved books" returns the link to the book's page on the IA Site as its first response.
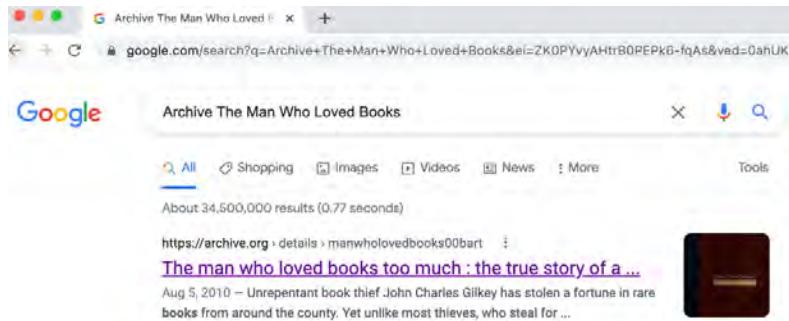
Figure 24: Locating a book on the IA Site via a simple Internet search.

A.4 Access from Better World Books

48. Links to the IA Site are also integrated into an online books platform called Better World Books ("BWB"), which is owned by an affiliate (Better World Libraries) of Internet Archive.[10] BWB offers users seeking to purchase a new or used book the option to download or display it instead via IA for free. For instance, the webpage where BWB offers books (new and used) for sale also includes a "Borrow" button to obtain a "Digital edition from Internet Archive."[11] Clicking on that button takes the user to the details page on the OL Site.[12]

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[10] https://press.betterworldbooks.com/for-the-love-of-literacy/.
[11] https://www.betterworldbooks.com/product/detail/Triumph-of-the-City---How-Our-Greatest-Invention-Makes-Us-Richer--Smarter--Greener--Healthier--and-Happier-9780143120544.
[12] https://archive.org/details/isbn_9780143120544.

A.5 The Open Library Site

49. The other prominent icon on the IA Site, as seen in *Figure 2*, takes the user to

https://openlibrary.org (*Figure 25*), an affiliated website, the "OL Site", also operated by IA. The

OL Site supplies a broad range of information on individual books. The OL Site claims that is

"building towards a web page for every book ever published."[13]
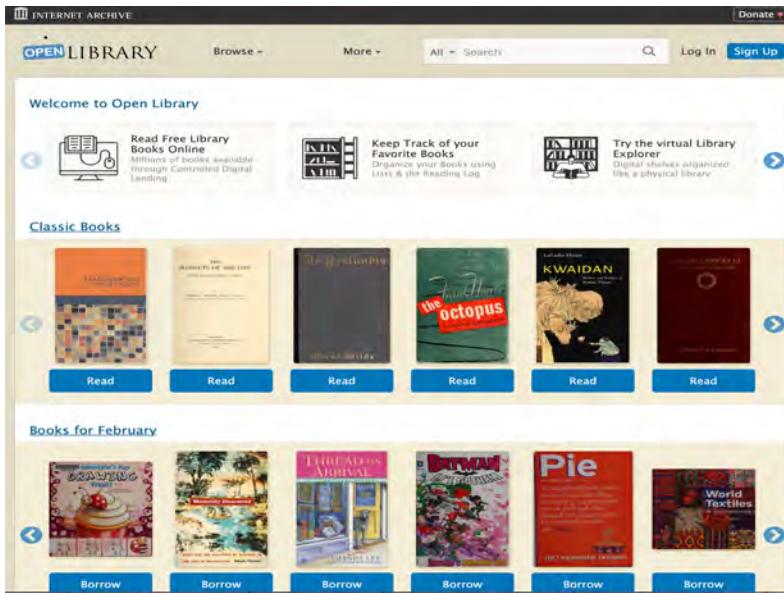
Figure 25: The OL Site home page, accessible at https://openlibrary.org.

50. Each page is comparable to a card in a library card catalog. For example, when I search

for *The Triumph of the City* at https://openlibrary.org, I see one result; clicking on that result

takes me to the address:

https://openlibrary.org/works/OL19873317W/Triumph_of_the_City_How_Our_Greatest_Inventi

on_Makes_Us_Richer_Smarter_Greener_Healthier_and_Happier?edition=ia%3Aisbn_97801431

20544. This long URL comprises several components:

- The web address for the OL Site, https://openlibrary.org;

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[13] As stated at the bottom of https://openlibrary.org.

28

- The string "works";

- The string "OL19873317W," which constitutes the Open Library identifier for the work "Triumph of the City";

- The title of the work as a string, with underlines replacing spaces, "Triumph_of_the_City_How_Our_Greatest_Invention_Makes_Us_Richer_Smarter_Gree ner_Healthier_and_Happier"; and

- The OL Site identifier for a specific scan of this work, "isbn_9780143120544."
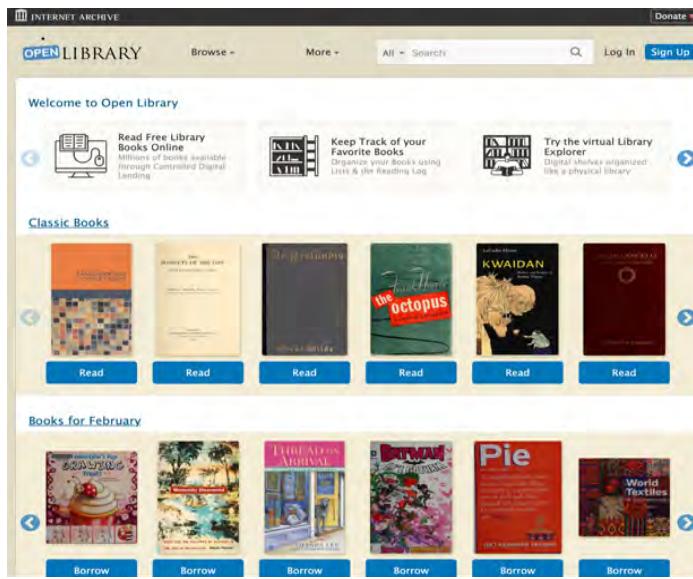
Figure 26: *The OL Site home page, accessible at* *https://openlibrary.org*

51. In general, OL Site identifiers have the format "OLnnnnnnnnW" or "OLnnnnnnnnM," where the "n"s are digits. A terminal character of "W," as seen in the example just given, indicates that the identifier is for a work; a terminal character of "M" indicates that the identifier is for a specific edition of a work. For example, visiting the web page for the work with identifier, OL19873317W (i.e., https://openlibrary.org/works/OL19873317W) indicates that the OL Site has information about six editions of this work. As a first example, *Figure 27* shows the OL web page for the book "The Triumph of the City" mentioned above in the discussion of

29

"Books to Borrow." Note how this page refers to "6 editions" of the work. This feature illustrates

an important difference between what are superficially quite similar pages on Books to Borrow

and the OL Site. Each OL Site web page is for a specific book, which may have several editions;

in contrast, each web page on Books to Borrow—on the IA Site—is for a scan of a specific

edition of a published book. This difference is also evident in how web pages are named. The OL

Site page has internet address https://openlibrary.org/books/OL24607166M, with OL24607166M

being the Open Library edition ("M") for the book. Actually visiting that page takes the user to

the page https://openlibrary.org/books/OL24607166M/Triumph_of_the_City, which states that it

is "[a]n edition of Triumph of the City" and provides a link to "view 6 editions."

Figure 27: OL Site page for the book "Triumph of the City" by Edward Glaeser.

52. The OL Site *Triumph of the City* web page shown immediately above provides various catalog information about the title, including a description, and also information about a specific edition: its ISBN, number of pages, publisher, etc. There are also links that offer the user the opportunity to "Preview," "Borrow," or "Listen [to]" the book. These are all links directly to the IA Site's "Books to Borrow" BookReader app that I described earlier, albeit with slightly different behaviors.

53. If I select "Preview" I see a small BookReader window, as shown in *Figure 28*. I can navigate forward, but only a limited number of pages are visible, as I also saw when I accessed the book from the IA Site's "Books to Borrow" collection when I was not logged in. At the bottom of the preview window is a link, "See more about this book on Archive.org"; clicking this takes me to the IA Site's details page for the scan, at address https://archive.org/details/isbn_9780143120544: the same page shown in *Figure 5*.

Figure 28: The OL Site preview feature allows a user to see the content of a digital copy hosted on IA.

54. If I select "Borrow" on the OL Site *Triumph of the City* web page, I am prompted to log in: see *Figure 29*. Note that I am asked to "Please enter your Internet Archive email and password to access your Open Library account." I see a link with accompanying text saying "Not a member of Open Library? Sign up now." Clicking there takes me to a page with at its head the words "Complete the form below to create a new Internet Archive account" and towards the

31

bottom, a tick box that I can select if "I want to receive news, announcements, and resources

from the Internet Archive, the non-profit that runs Open Library" and then the statement "By

signing up, you agree to the Internet Archive's Terms of Service." I conclude that the accounts

used by the IA Site and OL Site are essentially the same, at least to the extent that an account

with the OL Site will also enable the holder to "borrow" books from the inlibrary collection on

the IA Site.[14]
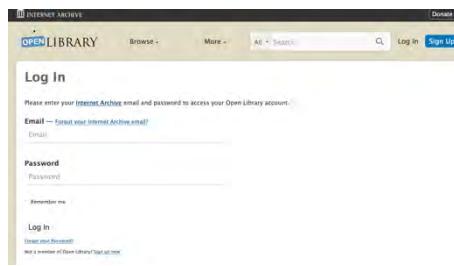
Figure 29: Clicking "Borrow" on the web page for "Triumph of the City" takes the user immediately to a login page.

55. Once I have logged in, I am immediately taken to a 1-hour loan for *Triumph of the City* in

the IA Site's BookReader: see *Figure 30*. The view is slightly different than that seen in *Figure 9*,

but only because BookReader is opened in "theater view":

https://archive.org/details/isbn_9780143120544/page/3/mode/2up?view=theater rather than

https://archive.org/details/isbn_9780143120544/page/3/mode/2up. As when accessing the scan

from the IA Site, I see buttons that I can use to return the loan—or, if the scan supports it (which

Triumph of the City does), request a 14-day loan.

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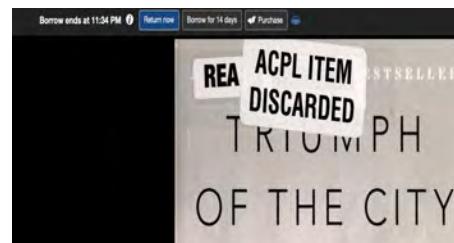
[14] This observation is confirmed in Cheng Deposition Transcript, December 3, 2021, 75:16-76:4.

Figure 30: Once the user is logged in, they are taken immediately to a 1-hour loan.

56. If I select the "Listen" option on the OL Site's *Triumph of the City* web page, the same things happen. If I remain logged in, I go straight to the BookReader, where I can select the "Read Aloud" feature.

57. In summary, the OL Site maintains a large number of web pages, each of which—in a manner akin to a card in a library card catalog—provides information about a published work and associated editions of that work. Many of these pages include links to copies ("scans") of specific editions that are available electronically from the IA Site. Links to preview, borrow, or listen to a book lead to the IA Site's BookReader application. Borrowing requires an account with the IA Site (or OL Site).

B. Technical implementation supporting access to books

58. I now discuss some aspects of the technical implementation of the Book System and how it supports access to, and dissemination of, digital books. As discussed above, these digital books are copies ("scans") of print books.

59. IA assigns each distinct scan of a book a unique identifier, such as the identifier "isbn_9780143120544" noted above for *Triumph of the City*. I discuss ISBNs in more detail at Appendix C.

60. Internally, IA maintains a mapping from each such identifier to the associated digital copy plus various information about the book that the scan represents, the scanning process, and so forth: what is referred to collectively as "metadata." Some of the metadata associated with a scan can be seen on the "details" page for the scan, accessible at the internet address:

```
https://archive.org/details/<scan-identifier>
```

which for the scan discussed in this paragraph is:

```
https://archive.org/details/isbn_9780143120544
```

A more complete set of metadata is accessible at:

```
https://archive.org/metadata/<scan-identifier>
```

which for the scan discussed in this paragraph is:

```
https://archive.org/metadata/isbn_9780143120544
```

61. The latter metadata can also be obtained by using an interactive client program provided by IA for installing and running on a user's computer. This client program, "ia" (https://archive.org/services/docs/api/internetarchive/)[15], allows a user to request metadata for a specific scan via the following command:

```
ia metadata <identifier>
```

Thus, one can request the metadata for the scan discussed previously by running:

```
ia metadata isbn_9780143120544
```

This command returns the document (in JavaScript Objection Notation, or JSON) shown in Exhibit A to this report. The following is some of the information to be found in this document:

- Conventional bibliographic information, such as author ("creator": line 377), title (line 364), publisher (line 378), publication year, ISBNs (lines 348-352), subject (lines 462-499), and description (lines 413-449).

- Information about the scanning process, such as scanner (line 503), operator (line 504), and scandate (line 514).

- Information (although, as discussed below, incomplete) about "loans" (lines 531-536).

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[15] Jason Scott, "The IA Client – The Swiss Army Knife of Internet Archive", http://blog.archive.org/2019/06/05/the-ia-client-the-swiss-army-knife-of-internet-archive/, June 5, 2019.

34

- Image about "holdings" in partner libraries (lines 536-804).

62. As mentioned above, IA allows for multiple digital items to be organized into groupings called "collections." A collection has a set of digital items, an administrator, and permissions settings controlling who can access its items.[16]

63. Two collections of relevance to this report are the "inlibrary" and "printdisabled" collections. Items in both of these collections are what IA calls "access restricted."[17] Access is limited in the sense that a user must be logged in to the IA Site (or OL Site) and potentially also satisfy other constraints (e.g., have borrowed the book for "inlibrary"). Thus, for the "inlibrary" collection, a user must log in and then "borrow" a scan in order to view or listen to a copy of that scan. Once a user has logged in, whether or not they can borrow a specific "inlibrary" scan depends primarily on the number of copies that IA has recorded as being available for that scan, due either to the existence of a physical copy under its control or (as explained below) due to a partner contributing a copy to lend,[18] and the number of other concurrent loans for that scan. The loan is allowed if the number of currently active loans for the requested scan is less than the number of copies of that digital book that IA has recorded as being available for lending. (IA also places limits on the number of concurrent loans that a single user has in progress.)[19]

64. Note that there are several different concepts here. What a publisher might call a "work" or a "book" is the literary work—a unique sequence of words by an author, with an associated title. Works are published in different mediums (*e.g.*, print books, ebook, audiobooks). Even within a given medium, such as print books, they may be published in different formats (*e.g.*, hardcover, paperback, large print). Further, there may be several different "editions" of a book,

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[16] *See* Appendix E.
[17] Cheng Tr. 43:55-44:6 and 45:10-13.
[18] Cheng Tr. 31:1-8 and 31:19-22.
[19] Cheng Tr. 81:15-22. *See also* LendingACL.php, line 112 (INTARC00152169).

which contain new or additional material, such as a new foreword. An IA scan is inevitably of a specific physical book and thus of a specific edition. For a particular work, IA may create multiple scans of the same or different editions**.**

B.1 IA control over concurrent access to a scan

65. In general, any scan in the "inlibrary" collection is available for access by a registered IA user: that is, by any individual who has created an account on the IA Site (or the OL Site). Whether a user can access a particular scan at a particular point in time is determined by the "maximum eligible concurrent loan limit" that IA has defined for that scan, and the number of accesses to that scan that are currently in progress: in IA's terminology, the number of active 1-hour and 14-day loans for the scan. In general, according to the architecture of IA's Book System, except other than when IA chooses to proceed differently, or has incorrect metadata, the number of concurrent accesses should not exceed the maximum eligible concurrent loan limit.

66. IA sets the concurrent loan limit for a particular scan to 1 plus a "number contributed by partners." I expand on the complete process later, but the overall idea is that the "1" corresponds to the physical copy of a particular book that IA has recorded that it possesses, and has scanned, and the "number contributed by partners" corresponds to physical copies of the same edition of the same book thought to be located on the partners' bookshelves or stacks. The following table illustrates these concepts with a concrete example. In the example, there are two works ("A by B" and "C by D"). The first work has two editions, with different ISBNs (ISBNs "X" and "Y") and the second has one (ISBN "Z"). IA has one physical copy for each of the three editions, each of which it has scanned to create a unique scan. Based on its own copies, IA would permit one concurrent loan each for each of the three ISBNs. Based on information provided by partners about other physical copies in their libraries, IA increases its lending limits to a total of eight

36

concurrent copies of "A by B" (five for ISBN "X" and three for ISBN "Y") and two concurrent

copies of "C by D."

"Work"	ISBNs	IA Copies	Scans	Partner Contributed Copies	Maximum Eligible Concurrent Loan Limit
A by B	X	1	1	4	5
A by B	Y	1	1	2	3
C by D	Z	1	1	1	2

67. The "copies contributed by partners" is thus a vital element of IA's approach to

disseminating digital copies of scans in its inlibrary collection, in that IA uses this information to

justify increasing its maximum eligible concurrent loan limit beyond the number of copies of a

book that IA believes it owns. IA obtains this information from partners via a process called

"overlap analysis," which I discuss in more detail below.

68. IA uses overlap analysis to compare a list of items that metadata indicate are present in

IA's "inlibrary" collection with a list of items that metadata indicate are present in a collection of

books that a partner library intends to "make available" to IA, to determine which items are

found in the metadata associated with both collections. This comparison is performed on the

basis of metadata, not the physical items; thus, it is only as accurate as the metadata that IA

maintains itself, or that is provided to it by third parties. Furthermore, the analysis assumes that

works with matching metadata are interchangeable, regardless of their physical condition. To

determine which scans in the "inlibrary" collection match with works found in a particular

partner's collection, IA obtains from the partner a list of items thought to be in the partner's

collection, and then performs overlap analysis. Thus, for example, if the metadata for the

"inlibrary" collection includes a record for "ISBN X" and the metadata for an Open Libraries

partner P includes a record with the same ISBN, then overlap analysis would identify "ISBN X" as an overlap.

69. As noted earlier, the Book System on the IA Site supports both 1-hour loans and 14-day loans. (Initially, only 14-day loans were supported; 1-hour loans—also referred to as "session loans"—were introduced in June 2020.[20]) 14-day loans are offered if IA has set the book's maximum eligible concurrent loan limit to be more than one. If the maximum eligible concurrent loan limit is 1 only, the Book System permits only 1-hour loans.

70. A consequence of the "maximum eligible concurrent loan limit" is that a user request to access a copy of a scan may be declined. IA's Book System then allows a user to be placed on a "waitlist," to be notified when the scan is available.

71. My prior statements about how the IA Site implements loans are based on public material and deposition testimony. To further investigate, I also examined the programming language files used to implement the loan logic in the IA Site. The file "*LendingACL.php*" provides information on the lending process. To be lendable, a scan must be in the "inlibrary" collection.[21] The code then determines how many copies can be loaned by counting the number of ISBN matches in different collections.[22] Specifically, it counts one for each collection in which the scan is located.[23]

72. Apart from concurrent access to items in its inlibrary collection, IA also allows access to certain works without restriction: specifically, books that are in the public domain, or that IA has obtained permission to distribute. Those books, along with books from the inlibrary collection, are contained in the Internet Archive Books collection. *See* https://archive.org/details/books. As

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[20] Cheng Tr. 49:17-50:2 and 155:10-157:13.
[21] LendingACL.php, line 478 (INTARC00152169).
[22] Petabox-lending/www/common/Lending/README.md, line 60 (INTARC00152169).
[23] LendingACL.php, lines 483-499 (INTARC00152169).

an example of a freely available book, a scan of the public domain Macmillan 1907 edition of

"Alice in Wonderland" is available on the IA Site with identifier "alicesadventures00carr3." A

user can access this scan at https://archive.org/details/alicesadventures00carr3, where they can

read it, listen to it, and download a PDF or EPUB (and other formats), all without signing in or

requesting a "loan." This characteristic of a scan is specified by metadata.[24]

B.2 National Emergency Library

73. IA disabled its restrictions on the number of concurrent loans limits for books in the

"inlibrary" collection during a period in 2020, a program that IA referred to as the "National

Emergency Library." (IA's implementation of this mechanism involved not disabling the

restrictions but rather artificially raising the number of "contributed items" to be considered

when determining whether to grant a request to access a scan to a high number[25]—but the effect

was in practice the same. IA personnel have also described the National Emergency Library as

"suspending waitlists.")

74. I examined the maximum number of concurrent loans for the scans associated with the

WIS, as indicated by the data produced by IA, during three periods in 2020, namely before,

during, and after the National Emergency Library. To conduct this analysis, I had to choose start

and end dates for the National Emergency Library. An IA web page states that the National

Emergency Library launched on March 24, 2020, and closed on June 16, 2020.[26] However, I see

evidence that it launched somewhat earlier: specifically, IA data shows that for certain works,

waitlists disappeared before March 24, 2020: for example, the scan with identifier

"catcherinrye00salirich" had a waitlist of 12 on March 17, 2020, but 0 on March 18, 2020. Thus,

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[24] Cheng Tr. 74:8-15.
[25] Cheng Tr. 143:2-24.
[26] http://blog.archive.org/national-emergency-library/.

39

to be conservative in terms of characterizing behavior before and after the National Emergency

Library period, I chose a start date of March 17, 2020 and a stop date of June 16, 2020, with the

NEL period being inclusive of these start and stop dates. For the end date, I see in supplied

source code a definition of a "Cutoff date for NEL loans" as 2020-06-16 20:00:00 (a comment

states that this time is GMT).[27]

B.3 Security Issues

75. I use the term "BookReader" to refer to IA's in-browser book reader application. This

application is constructed to run in a user's web browser. It allows the user to *preview* any scan

in the inlibrary collection, and to *read* or *listen to* all of a scan for which the user has a 1-hour or

14-day loan.

76. When the user navigates through the scan, BookReader requests page images from the IA

Site one at a time, and displays them in the web browser when the user is previewing or reading;

when the user has requested to listen to the text, the IA Site delivers small amounts of text to the

BookReader, which uses the browser's native text to speech capability to generate audio from

optical character recognition (OCR) text provided by the underlying Book System.[28] Regardless

of whether text is displayed visually or read aloud, the user can read or hear the entire book,

increment by increment, in the BookReader.

77. The fact that the Book System delivers page images to the BookReader opens up the

possibility of a user capturing those images to create a permanent copy of the book that IA has

"lent" to them for a limited time. This is certainly possible: A user can manually perform a

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[27] Lending.inc, line 56 (INTARC00152169).
[28] Cheng Tr. 209:23-210:9 and 46:3-9.

screen capture of each page as it is displayed on their screen, and then reassemble the book from those screen captures. However, this process is cumbersome.

78. A user could also attempt to automate this screen capture process. A security audit observed that, at least at the time of the audit, two aspects of the protocol used by the BookReader to retrieve pages allows for such automation.[29] First, the Book System assigned names to successive images in sequence, so that a program could easily be written to generate URLs for all images in a book. Second, the Book System does not guard against a user sending a sequence of requests for images from outside the browser, using the cookie supplied for browser authentication.

V.   BACKEND ELEMENTS OF THE BOOK SYSTEM

79. There are several backend elements that support the ability for users to access copies of books. IA has changed the system over time and continues to make changes; it can change the rules at any time, such as seen with the introduction and removal of the National Emergency Library ("NEL"); the addition of 1-hour loans; and the expansion of digitize-and-lend to include the Open Libraries initiative. Indeed, the name "inlibrary" derives from IA's original rollout of providing digital copies of books under a technological requirement that the user must be "in the library" rather than the IA Site providing copies to anyone, anywhere.

A. Adding books

80. IA acquires physical books and digitizes them by taking digital photographs of their

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[29] Archive.org BookReader Content Security Audit, Fred Chasen, 5/31/2019. 44_INTARC00152110_VOL0003.

covers and all of their pages.[30] It uses custom-built "Scribe" workstations for this purpose. The

scanning process generates images of each page of the book in JPEG format, from which IA then

generates copies of the scanned book in various formats, including EPUB, PDF, and DJVU.[31]

This process is also called "scanning" the book, and the resulting digital version is referred to as

a "scan."

81. IA has Scribe workstations dispersed at locations throughout the United States and other

countries, often embedded within libraries. IA also arranges for companies in the Philippines and

Hong Kong (or mainland China), which both have at least ten Scribe machines, to digitize books

on IA's behalf.[32]

82. IA has developed various versions of Scribe machines, but their key components are

similar. The Table Top Scribe, for example, consists of a frame containing two cameras and a V-

shaped cradle in which the operator places a book for photographing.[33] The book's pages are

turned and photographed individually.
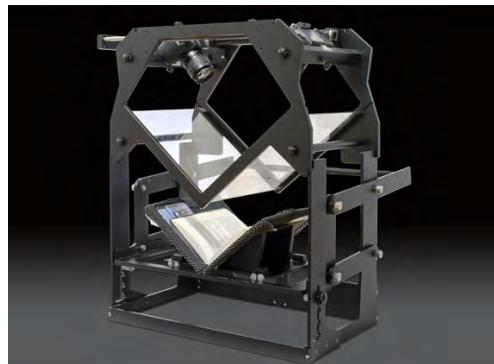
Figure 31: A Scribe device for digitizing books. Source:
https://archive.org/download/tabletopscribesystem/Entrypage5.png

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[30] The various steps in the digitization process are described in a document titled "Internet Archive Book Digitization Process" dated April 23, 2015 (Pls. Ex. 17, PLAINTIFFS0000818). This document and related information can be found via the "Partner Documents" page at https://archive.org/details/partnerdocs.
[31] Cheng Tr. 59:18-60:2.
[32] Mills Tr. 34:15-35:4, 131:17-132:07 and 209:4-21.
[33] https://archive.org/details/tabletopscribesystem.

83. The digitization process is non-destructive. After photography, IA ships the physical book to a storage facility and places it in a container with a "Box ID" number.[34]

84. IA assigns each scan a unique identifier, which is a short alphanumeric string. In some cases, this scan identifier reflects to some degree the title and author, such as in the case of "psiloveyou0000aher" corresponding to a scan of *PS, I Love You* by Cecelia Ahern (WIS #1). In other cases, the scan identifier is based on an ISBN, such as with the scan identifier "isbn_9780965738408" for a scan of *A Short History of Nearly Everything* by Bill Bryson (WIS #9). Some scan identifiers are more difficult to interpret at a glance than others. In some cases, apparently due to error, the scan identifier bears no relation to the content of the scan. For example, "harrypotterhalfb00rowl_0" is the identifier for a scan of *The Intelligent Investor* by Benjamin Graham (WIS #39).

85. For each scan, IA maintains metadata records. These records can be said to be "attached" to the scan within IA's system; that is, the metadata are associated with the scan identifier. These metadata include a number of operational facts, such as the model of camera used and the date of the scan, as well as the Box ID of the scanned book.

86. IA also attaches to each scan metadata regarding the content of the book, such as its title, author, date, and publisher. If IA has received the book from a library, the library may supply this metadata. If the library does not provide this information, or if the book has been obtained from some other source, IA typically obtains the metadata independently from a service called WorldCat (https://www.worldcat.org). This involves a manual search of WorldCat by the book's ISBN number or title and author, and a manual selection of the right result.[35]

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[34] This storage step occurs for books that IA itself has acquired. Some scans originate from books provided to IA by a partner library for scanning.
[35] Mills Tr. 182:15-183:6.

43

87. Subsequently, as needed, authorized IA staff can use an internal tool on the IA Site known as Meta-manager to review and revise metadata for scans. Policies and procedures pertaining to use of Meta-manager and quality assurance generally are described in a document titled "Quality Assurance (QA) Process."[36] This tool allows staff to set a "curatestate" of "No Errors = Approved," "Minor Errors = Approved," and "Major Errors = Freeze." The document suggests a verbal warning to a scanning operator whose scans receive more than five major codes or ten minor codes in a week. Errors are given different codes and grouped by severity into "red," "yellow," and "green" levels, where "red" means "fix or gut the book." Among the errors classified as red is code 140, "Book and metadata do not match." I describe issues with IA metadata in more detail in a separate section below.

88. Photography of the book using a Scribe machine results in a set of digital image files in the JP2 (JPEG 2000) format. IA uploads them to its servers in California "right after imaging".[37] On IA servers, the filenames carry the suffix "orig" to indicate these are the original images. This is a **first** digital copy of the book.

89. IA then processes the original JP2 image files, carrying out a number of steps to yield files for users of the Book System.

90. First, IA rotates, crops, and performs other image adjustments as necessary to the original JP2 files. This yields a **second** digital copy of the book, in the form of a second set of JP2 files. I will refer to this as the set of adjusted images.[38]

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[36] Pls. Ex. 19 (INTARC00140477).
[37] Mills Tr. 167:25-168:24.
[38] The "Background Processing" section of Pls. Ex. 17 (PLAINTIFFS0000818) may be read as indicating the adjusted images ("processed masters") are further compressed to an "access format" set of JP2 files, though this is unclear. As discussed below with respect to Defendant's production of the multiple formats it maintains (in the case of two representative scans), only two sets of JP2 files appear to be retained by IA. I thus will not distinguish a third set.

91. IA then proceeds to use the adjusted images to create several more copies. It also delivers the adjusted images to users one image at a time as they page through books using BookReader on the IA Site.

92. IA combines the adjusted images into a single PDF file. The PDF file contains a few more pages than the book, because it counts photographs of both sides of the front and back covers, plus any unnumbered pages at the front and back of the book, as pages. This PDF file is a **third** copy of the book.

93. IA generates an encrypted version of the PDF. This is the file IA distributes for reading with the Adobe Digital Editions application. This is a **fourth** copy of the book. The encryption functions to prevent reading of the PDF using unauthorized applications.

94. IA uses optical character recognition (OCR) software to extract text from the images of the pages. This software automatically identifies characters and their positions on each page and generates a purely textual, as opposed to image-based, copy of the book's content. The text is stored in simple, readable form in a file with filename extension "_djvu.txt". This is a **fifth** copy of the book. The characters and data on their positions on the pages also are stored in two formats designed for use by software; these files have filename extensions "_djvu.xml" and "_abbyy." These are **sixth** and **seventh** copies of the book.[39]

95.   In addition to the PDF, IA generates another version for download in a format known as EPUB. This version is a composite of text from the OCR process and images (such as figures and illustrations). IA also creates an encrypted version of the EPUB file that can be read only with Adobe Digital Editions application. These are **eighth** and **ninth** copes of the book.

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[39] The text and positional data derived from the OCR process is used by BookReader's Read Aloud feature. As described earlier, software in the web page converts the text to speech word-by-word on the user's device. Passages are highlighted as they are read aloud. This is made possible by the positional data. IA also uses the extracted text to support a feature by which a user can search for terms within the book.

96.   IA also creates a copy in the DAISY format, which as discussed earlier, is a version for use by print-disabled users. This copy relies upon the text extracted from the OCR process. IA also generates an encrypted version of the DAISY copy. These are **tenth** and **eleventh** copies of the book.

97.   In addition to the above, IA also copies its photograph of the book's cover into a low-resolution "thumbnail" image.

98.   In some cases, IA inserts an Internet Archive "bookplate" page into the beginning pages of the scan indicating the book was digitized by IA.[40] Other than that, IA scans the complete book and without adding any content to the book.[41]

99.   I have described the copies that IA creates for books in the inlibrary collection. Additional copies in other formats may be available for the books outside that collection that users can view without a loan or permanently download.

100. IA refers to the technical creation of these multiple copies as the "derive" process, because the various copies are derived from the original photos of the book taken with the Scribe machine. More generally, IA uses the term "republishing" to refer to the full process, including manual quality assurance steps, of moving from the original images to the copies made available to users.[42]

101. For books in the inlibrary collection, any user at any time may access a few page images in BookReader as a preview. Upon taking a 14-day or 1-hour loan, a user can access the remainder of the page images in BookReader, play the text copy as speech within BookReader, and download the encrypted PDF and EPUB copies. A print-disabled user additionally can

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[40] Pls. Ex. 17 (PLAINTIFFS0000818).
[41] Mills Tr. 175:05-16.
[42] Mills Tr. 165:22-166:18.

download the encrypted DAISY copy. The other copies IA has created, such as the original images and the unencrypted PDF, are not available to users.

102. In this matter, IA produced to Plaintiffs sets of copies in multiple formats for two different scans. The first set, designated INTARC00463344, contains files pertaining to the scan identifier "howidiscoveredpo0000nels" for the book *How I Discovered Poetry* by Marilyln Nelson (work-in-suit #80). These include the original images, the adjusted images, PDF, encrypted PDF, encrypted EPUB, three text versions (_abbyy, _djvu.txt, and _djvu.xml), and a cover thumbnail image, plus some ancillary files. The second set, designated INTARC00463345, contains the same sorts of files pertaining to the scan identifier "returnofgeorgewa0000lars" for the book *The Return of George Washington* by Edward J. Larson (work-in-suit #60).

103. IA produced to Plaintiffs 254 PDF and 125 TXT files for 379 scans in response to Plaintiffs' request for documents pertaining to the WIS in this matter. Collectively, I will refer to these PDF and TXT files as the scan files. These are not the same as the unencrypted PDF files and text files that IA generates in the republishing process. Specifically, the PDF files appear to be the result of taking the unencrypted PDFs yielded by republishing, converting them into black-and-white, and adding Bates numbers to each page. The TXT files appear to be the result of applying OCR to a scan, but through an OCR operation distinct from the OCR that occurs in the republishing process.[43]

Use of Library Genesis

104. The metadata for one of the scan files that IA produced to Plaintiffs in discovery indicates the contributor of the book is "Library Genesis." This is the name of a notorious

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[43] The TXT file in the scan file production for returnofgeorgewa0000lars at INTARC00111472 is not identical to any of the text versions (from republishing) in the multi-format production for this item at INTARC00463345, suggesting the TXT scan files are results of a distinct OCR process.

website offering free access without license to large numbers of digital copies of books and

scientific journal articles, for permanent download.[44] In a case brought by publishing company

Elsevier, the U.S. District Court for the Southern District of New York in 2017 awarded $15

million in damages in a copyright infringement judgment.[45]

105. The Library Genesis-contributed scan in question is for *Song of Solomon* by Toni

Morrison (WIS #78), and it has scan identifier "songsolomon00morr_536." The metadata file

(INTARC465463.json) that IA produced for this scan is unique among the other metadata files

produced in that it contains a section named "genlib" containing many fields and an external

identifier named "urn:libgen." The value of that external identifier is

"778000/df5492f1897f7801fd5ce4538f838c03." The Library Genesis site offers a PDF copy of

Song of Solomon at

http://libgen.rs/book/index.php?md5=DF5492F1897F7801FD5CE4538F838C03. The fact that

the "libgen" external identifier matches with the Library Genesis URL for the work indicates the

external identifier refers to the item on the Library Genesis site.

106. The Library Genesis item page indicates the PDF for *Song of Solomon* was added to the

site at 4:00 PM on February 4, 2012. The IA metadata file lists the same time and date as IA's

scan date for the file (IA's metadata also are reflected in its details page for this scan at

https://archive.org/details/songsolomon00morr_536). These facts together strongly suggest that

IA obtained the scan via download from the Library Genesis website rather than by

photographing a physical book. IA adopted the date of addition to the Library Genesis site as its

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[44] https://www.vice.com/en/article/pa7jxb/archivists-are-trying-to-make-sure-a-pirate-bay-of-science-never-goes-down.
[45] https://www.publishersweekly.com/pw/by-topic/digital/content-and-e-books/article/74058-elsevier-awarded-15m-in-lawsuit-against-pirate-sites.html and https://cip2.gmu.edu/wp-content/uploads/sites/31/2017/06/Elsevier-v-Sci-Hub-Judgment.pdf.

date of the scan. Consistent with this, the scan has no Box ID number, indicating IA does not

have a physical source copy in storage.

107. It is significant that the Library Genesis URL contains the string "DF54…" indicated by

the IA metadata as the "libgen" external identifier for the book. This string also occurs in IA's

"genlib" metadata as the MD5 value of the scan. "MD5" is the name of a conventional hash

algorithm that generates a short alphanumeric string that uniquely identifies a file. Downloading

this PDF by using a link from the Library Genesis site and using a standard tool to calculate its

MD5 value, I find it is df5492f1897f7801fd5ce4538f838c03, just as in the IA metadata and

Library Genesis URL. This PDF has the same number of pages (555) and appears identical in

layout to the Bates-stamped scan file INTARC463610_VOL0018.pdf that IA produced to

Plaintiffs for this scan. In fact, the layout of the book, including the format of the table of

contents (which includes an entry for "Title Page"), suggest it was derived from an ebook edition

of *Song of Solomon* rather than a print edition.

108. IA's metadata file (INTARC465463.json) indicates that IA generated encrypted PDF and

EPUB files for this scan, such as it does for scans added to the inlibrary collection and thus made

available for borrowing. Further, the metadata indicate the scan was matched against a copy of

Song of Solomon held by St Mary's County Library ("stmaryscountylibrary" appears in the

"holdings" value for the scan). That this item was the subject of an overlap analysis implies that

IA had included it within its inlibrary collection for users to borrow, because the code for the

overlap analysis compares the library's data to IA's data on the basis of the contents of IA's

inlibrary collection.

109. The IA details page for this scan of *Song of Solomon* indicate it was uploaded by Aaron

Ximm on July 7, 2013 and added to the IA site on July 17, 2013. The collection details page at

https://archive.org/details/librarygenesis states that Aaron Ximm was the creator of this

"librarygenesis" collection on June 5, 2013, and that it has contained a total of 920,630 items,

although it is empty today. This collection is titled "Internet Books" and described as "Digitized

books from the Internet." Aaron Ximm is an IA employee.[46]

110. There exists a second Library Genesis collection on the IA Site today that is not empty,

although it appears its contents are books in the public domain. This "Library Genesis – Open"

collection with 14,745 scans is at https://archive.org/details/librarygenesis_open. This page

indicates the collection was created by Jeff Kaplan on April 2, 2019. Jeff Kaplan is an IA

employee.[47] The metadata for scans in this collection indicate "Library Genesis" as their

contributors and include "urn:libgen" external identifiers. As with the *Song of Solomon* example,

these facts suggest these scans were obtained from the Library Genesis site.

B. Making books lendable

111. After IA adds a scan to the Book System, it may decide to make the scan available for

lending, which means it is available for reading either on the IA Site or on the user's device for a

limited time, either one hour or fourteen days. To make a scan lendable, IA assigns the scan to

the "inlibrary" collection, also known as the "Books to Borrow" collection. IA accomplishes this

assignment by updating the "collection" metadata item attached to the scan. The "collection"

item consists of a list of one more IA collections to which the scan belongs.

112. When a new book is scanned, it is typically first placed in an access-restricted collection

called the "print-disabled" collection.[48] From there, it may be moved to the "inlibrary"

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[46] Mills Tr. 262:1-5; Kahle Deposition Transcript, December 9, 2021, 209:8-14.
[47] Mills Tr. 146:10-14; Butler Deposition Transcript, December 8, 2021, 55:19-56:11 and 58:7-58:20.
[48] Mills Tr. 66:6-18.

collection. Books may be removed from the "inlibrary" collection in response to take down requests.[49]

113. A document titled "Notes about Book Collections and Availability" dated July 27, 2018 and authored by Alexis Rossi, describes several key collections, including the inlibrary collection.[50] It states that only Alexis Rossi or Jeff Kaplan should manually add a scan to the inlibrary collection, and it provides a list of criteria for assignment. Of particular note, according to the document, the scan must have a Box ID beginning with "IA" indicating that IA holds a copy of the physical book in storage. The date of the book must be "between 1925 (inclusive) and ~5 years ago." I take this to refer to the book's publication date (see further discussion below). That is, the document indicates scans of books published prior to 1925 or within the past five years should not be made available for lending. The document notes that "Some creators, collections, publishers, and specific books are excluded" from the inlibrary collection. The list includes some other criteria tangential to the focus of this report.

114. I have observed that IA sometimes deviates from the date criteria set forth in the document described in the prior paragraph. Here are two examples involving a WIS where IA scanned a book and put it within its inlibrary collection much sooner:

- The identifier allpresidentswom0000levi is a copy of the book *All the President's Women: Donald Trump and the Making of a Predator* by Barry Levine and Monique El-Faizy (WIS #69). The book was published in 2019,[51] and the IA metadata also reflects that the book was published in 2019.[52]

- The identifier manwhosolvedmark0000zuck is a copy of the book *The Man Who Solved the Market: How Jim Simons Launched the Quant Revolution* by Gregory

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[49] Cheng Tr. 85:13-15.
[50] INTARC00471120.
[51] https://www.amazon.com/All-Presidents-Women-Donald-Predator-ebook/dp/B07NVJX6YZ (Oct. 22, 2019 publication date). *See also* INTARC00103471 (published in 2019).
[52] AG0000373 (depicting scan in the inlibrary collection in May 2020).

Zuckerman (WIS #127). The book was published in 2019,[53] and the IA metadata also reflects that the book was published in 2019.[54]

115. The same document states that a script runs hourly to assign books to the inlibrary collection. I understand that IA's source code production INTARC00472030 to contain the version of this software current as of the January 31, 2022 date of production.

116. This "inlibrary script" production consists of three files: (1) **run.sh**, a script that serves as the starting point for the process. It runs the other two programs, which do the real work, starting with (2) **get_books_to_add_to_inlibrary_browserlending.py**. This program generates a list of scans to be added to the inlibrary collection. The third program, (3) **add_to_inlibrary_browserlending.py**, actually adds the scans identified by program (2) to the inlibrary collection. Below, I discuss these two programs in more detail.

117. Program (2), **get_books_to_add_to_inlibrary_browserlending.py**, implements criteria for determining whether a book should be added to the inlibrary collection. These criteria include those described above and, again, other requirements tangential to this report. In what follows, I describe key points in the process.

118. First, the program executes a function named **get_results**, defined at line 5760. This uses IA's Meta-manager service (described in the section above) to search for scans meeting various criteria, including having a Box ID beginning with "IA" or "ia" (line 5791) and a date ranging from 1927 to 2016, inclusive (lines 5799, 5769, and 11–14). This date is the publication date of the scanned book as maintained in IA's metadata for the scan.[55]

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[53] https://www.amazon.com/Man-Who-Solved-Market-Revolution/dp/073521798X/ref=sr_1_1?Adv-Srch-Books-Submit.x=30&Adv-Srch-Books-Submit.y=13&qid=1645712951&refinements=p_66%3A9780735217980&s=books&sr=1-1&unfiltered=1 (November 5, 2019 publication date). *See also* INTARC00108054 (published in 2019).
[54] AG0003624 (depicting scan in the inlibrary collection in May 2020).
[55] B. Cheng Decl., 2-14-2022, para. 45.

119. Next, the program executes a function named **filter_results**, defined at line 5830. This function iterates through all scans found by **get_results** in the previous step. For each such scan, the program obtains metadata from the IA Site. Among other steps, the program checks whether the scan's title metadata (that is, the title of the scanned book) is on a list of titles to exclude (see line 5856–5857). If the title is on the list, the scan is not added to the inlibrary collection. This list consists of 123 titles set forth between lines 53 and 175 of the program. I note that these titles match the titles of the 127 WIS. Some of the WIS are members of series for which the leading part of the title is the same between different works (for example, the WIS contain three different works with titles that start with "Big Nate"). Therefore, 123 titles suffice to cover the 127 WIS in this implementation. This title-exclusion feature thus appears to be in use only to ensure that scans of the WIS in this matter are not again added to the inlibrary collection.

120. Next, the program checks whether the scan's ISBN metadata (that is, the ISBN numbers that Internet Archive has associated with the scanned book) are on a list of ISBN numbers to exclude (see lines 5861–5862). If so, the scan is not added to the inlibrary collection. The function **get_isbn_exclude_list** beginning at line 17 fetches this exclusion list from the IA Site, where it exists as a collection named "specialproject_exclude_list." I understand that IA's counsel has stated that this list is not accessible to the public and that this list will be produced to Plaintiffs. I will review this list when it is produced.

121. Next, the program checks whether the scan's publisher metadata (that is, the publisher of the scanned book) is on a list of publishers to exclude (see lines 5866–5871). If so, the scan is not added to the inlibrary collection. In addition, the "source" metadata field for the scan is set as "removed" so that the scan will not be found by the **get_results** function in the future. The list of publishers to exclude is present within the source code at lines 185–204, where eighteen

53

publishers are listed. Twelve of these are in a section under a comment "Added 2020-01-13 per Alexis." None of these eighteen publisher names match in whole or in part the names of the Plaintiffs in this suit (Hachette Book Group, Inc.; HarperCollins Publishers LLC; John Wiley & Sons, Inc.; and Penguin Random House LLC).

122. Finally, the program checks whether the scan's creator metadata (that is, the authors of the scanned book) contain any names on a list of authors to exclude (see lines 5879–5885). If so, the scan is not added to the inlibrary collection. In addition, the "source" metadata field for the scan is set as "removed" so that the scan will not be found by the **get_results** function in the future. The list of authors to exclude is present within the source code at lines 219–5756. It contains 5,537 names. At the top of the list is a comment, "Added 2020-01-13 per Alexis."

123. These are the technical implementations in computer source code of the criteria in the document INTARC00471120 discussed above. The allowed publication date range seen in the code (1927 to 2016, inclusive) has moved forward relative to that in the document ("1925 (inclusive) and ~5 years ago"), presumably due to the passage of time between the creation of the document and the production of the source code.

124. Any scans that remain following execution of program (2) **get_books_to_add_to_inlibrary_browserlending.py** are then subject to assignment to the inlibrary collection by program (3), **add_to_inlibrary_browserlending.py**. This program adds "inlibrary" to the scan's "collection" metadata field at line 52 within a function named **insert_cols** called from line 99.

125. I note that the "Notes about Book Collections and Availability" document INTARC00471120, under the heading "Pre-1925 books," describes a script that "tries to find printdisabled or inlibrary books that were published prior to 1925" and that "remove[s] those

54

restricted collections to make them freely available." Presumably, the 1925 date is incremented

annually. Through use of this script, scans would be removed from the inlibrary collection.

**C. Increasing concurrent lending limits for books: Open Libraries project and overlap
analyses**

126. As I described in the previous section, when IA scans a physical book, places it in

storage, and then adds the scan to the inlibrary collection, the scan becomes lendable to users.

Specifically, prior to June 2020, IA offered only 14-day loans.[56] Commencing in June 2020, IA

now makes the scan available for a 1-hour loan and potentially for a 14-day loan too.[57]

127. When a user takes such a loan, the scan becomes unavailable to other users until the hour

has passed. At any given time, except for when IA sets aside its rules (*e.g.*, NEL), only one user

has access to the scan at any one point in time. Also, as I described earlier, a scan provided as a

1-hour loan may be read only in the BookReader interface on the IA Site. It cannot be

downloaded in encrypted form for offline reading.

128. IA has developed an initiative known as "Open Libraries" to increase the number of users

who can read a given scan at one time.[58] I refer to this number as the "maximum eligible

concurrent loan limit" for the scan. In the Open Libraries initiative, IA partners with libraries to

leverage their holdings of physical books to, in effect, count their print copies as additional

copies that IA may lend as digital books, without doing any re-scanning.

129. At a high level, the process works as follows: (1) A partner library provides a list of

ISBNs of its physical book holdings to IA. (2) IA compares these ISBNs to the ISBNs of the

scans in the inlibrary collection. This comparison of lists to determine the items they have in

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[56] Freeland Deposition Transcript, December 17, 2021, 179:6-12.
[57] Freeland Tr. 177:18-22.
[58] The website for the Open Libraries initiative is at http://openlibraries.online. It is distinct from, but related to, IA's similarly named Open Library project at https://openlibrary.org.

common is referred to as an "overlap analysis." (3) For each ISBN that overlaps, IA increases its

concurrent loan limit for the associated scan by one.[59]

130. In this way, IA considers a scan to be backed by multiple physical copies: the one that IA

photographed and placed in storage, and one or more other different physical books with the

same ISBN numbers purportedly maintained in the collections of partner libraries. IA then

allows multiple users to have access to copies of a scan concurrently. The maximum eligible

concurrent loan limit is equal to one plus the number of partner libraries holding a book with the

same ISBN.[60]

131. When the maximum eligible concurrent loan limit is more than one, IA makes the scan

available for 14-day loans in addition to the 1-hour loans.

132. Each user who takes a loan receives a separate copy of the same scan. Thus, when two

users have a loan of a scan at the same time, each is reading a separate copy sent to their

device.[61]

133. The Open Libraries program does not involve scanning the physical books held by

partner libraries, but instead involves only comparing their ISBNs. As mentioned, the partner

library's copy of a book may be in substantially different physical condition than the copy IA

scanned.

134. Further, in many cases, IA assigns multiple ISBNs to a single scan, even though only one

10-digit and one 13-digit ISBN correlates to its print edition. In a subsequent section, I show that

this is a common occurrence among IA's scans for the WIS. These ISBNs assigned by IA may

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[59] When a partner library's ISBN matches multiple scans, IA increments the concurrent loan limit for only one of the scans (see generate-final-list.sh in the source code production INTARC00170849).
[60] This is a simplified presentation of the situation because, as discussed below, IA sometimes associates multiple ISBNs with a single scan.
[61] In the case of reading using IA's online BookReader, the copy is sent to the user's device page-by-page as the user reads the book.

represent different editions of a book. Each additional ISBN that IA assigns to a scan provides an

additional chance for a match with a partner library's holdings, thus inflating the matches found

in overlap analyses. For example, suppose IA has assigned ISBN A and ISBN B to a scan, with

ISBN A being the ISBN appropriate for the physical copy in storage, and ISBN B being the

ISBN for a different edition of the same work. If a partner library's holdings include ISBN B,

which is a different edition than IA has in storage (and perhaps a less desirable or older edition),

IA nonetheless will consider it a match to the scan of ISBN A and increase the scan's concurrent

loan limit by one.

135. The design of the IA system for adjusting concurrent loan limits based on overlap

analyses does not take into account the fact that a partner library's holdings may be borrowed by

the partner's patrons.[62] Although a partner library may have a book with a given ISBN in its

holdings, it may have loaned that physical copy to one of its patrons or could have discarded or

lost it. Likewise, a patron could be reading it in the library's reading room. IA's system is

concerned only with whether a book is recorded as being in a partner library's holdings, not with

whether that book presently is available for borrowing. In using the Open Libraries initiative to

sweep in partner libraries' holdings as extensions of IA's holdings, IA's emphasis is on what the

partner library's records indicate the library *owns*, not what the partner library currently has in its

stacks for borrowing. To take into account a partner library's lending to its own patrons, IA

would need to run overlap analyses in tight synchronization with the library's activities (i.e., stay

in real-time synch with which books actually are on the library's shelves). As I will show next, in

practice, IA generally runs overlap analyses monthly (since late 2020), and it is relatively rare for

a partner library to provide IA with updates to its holdings list. Moreover, there is no reporting

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[62] *See* Freeland Tr. 166:22-167:2.

from IA to the partner library as users borrow the digital copies from IA—which could lead to a patron borrowing the library's physical copy at the same time one of IA's users borrows the digital copy attributed to that physical copy.

136. The identities and numbers of the books in each partner library's physical collection are subject to change over time, including as old books are discarded and new books acquired. Thus, an accurate determination of the number of "copies contributed by partners" requires a method for updating the list of books in partner collections over time. To this end, IA provides a mechanism that a partner library can use to report changes in their "library holdings"; IA can then repeat the overlap analysis for that partner library.

137. IA maintains a collection on its site, named openlibraries, that contains the partner library collections as members. At present, the openlibraries collection contains 89 items, of which 87 are collections representing partner libraries and two are ancillary collections associated with IA itself.

138. IA also maintains a collection for each Open Libraries partner library that provides information about activities involving that partner library. Each collection has a unique identifier, such as denverpubliclibrary-ol for the Denver Public Library, and is at the URL https://archive.org/download/<lib>-ol, where <lib> is the partner library name. For example, information about the partner "denverpubliclibrary" is at:

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https://archive.org/download/denverpubliclibrary-ol
```

Exhibit B shows the contents of this directory on February 18, 2022. Among the files listed are:

- A file denverpubliclibrary-ol_files.xml, which provides a list of the files in the directory.

- Multiple files with names of the form:

denverpubliclibrary_<date>_physical_direct_matches.tsv,

where <date> is a date in YYYYMMDD format, each containing many lines giving

an ISBN and an IA identifier. For example, the file:

denverpubliclibrary_20190213_physical_direct_matches.tsv contains 111404 lines,

with the first being "978000200019 journeytosourceo00onda," indicating that the

edition with ISBN 978000200019 has been matched with the IA scan with identifier

journeytosourceo00onda. These 111404 links contain in total 100302 unique ISBNs

and 98067 unique Internet Archive identifiers.

- Multiple files with names of the form:

    denverpubliclibrary_<date>_ overlap_summary.txt,

containing summary information about the overlap analysis. For example, the file

denverpubliclibrary_20190213_overlap_summary.txt contains the following, stating

that "denverpubliclibrary" has 100382 unique ISBNs, of which 98067 are "inlibrary

direct matches" with IA items.

```
Overlap Summary for denverpubliclibrary @ 20190213

Total unique ISBNs from denverpubliclibrary :     100382

. Match type   .                    ISBNs   %    IA items
-------------------------:-----------------------------
inlibrary direct matches         100302   99      98067
physical direct matches          100061   99      98238
promised direct matches           19299   19        723
-------------------------:
```

139. The "denverpubliclibrary-ol" directory contains a total of 17 "overlap_summary" files,

allowing me to examine how the information recorded about this partner library changes over

time. For example, the file "denverpubliclibrary_20201001_overlap_summary.txt", contains the

following information:

```
Overlap Summary for denverpubliclibrary @ 20201001
```

59

```
Total unique ISBNs from denverpubliclibrary :    100382

. Match type    .                  ISBNs      %    IA items
------------------------:----------------------------
inlibrary direct matches          89954      89      94151
physical direct matches          100151      99     105901
promised direct matches             28       0         35
------------------------:
```

Curiously, despite being dated 19 months after the file presented in the preceding paragraph, this file reports exactly the same value for "total unique ISBNs" (the number in the second line). Indeed, every one of the 17 "overlap_summary" files for "denverpubliclibrary," from 2019/02/13 to 2022/01/01, reports the same number, 100382. It seems highly unlikely that over a period of 33 months, there were no changes to the inventory of books contained in this library (*i.e.*, nothing removed from or added to the partner library's physical holdings).

140. I performed a similar analysis for each of the IA partner libraries for which information is available via files of the type just discussed. As set forth below, I find that the majority of them show no change in the number of ISBNs reported.

141. In *Figure 32* below, I have plotted the current reported size of each of these 87 partner library collections (using the abbreviated names provided by IA). A total of 31 collections are reported to be empty. The University of Arizona Libraries collection (universityofarizona-ol) is the largest, with a reported 379,113 items. Among partners with a non-zero number of items, the median reported collection size is 66743. There are 19 partners with more than reported 100,000 items in their collections.
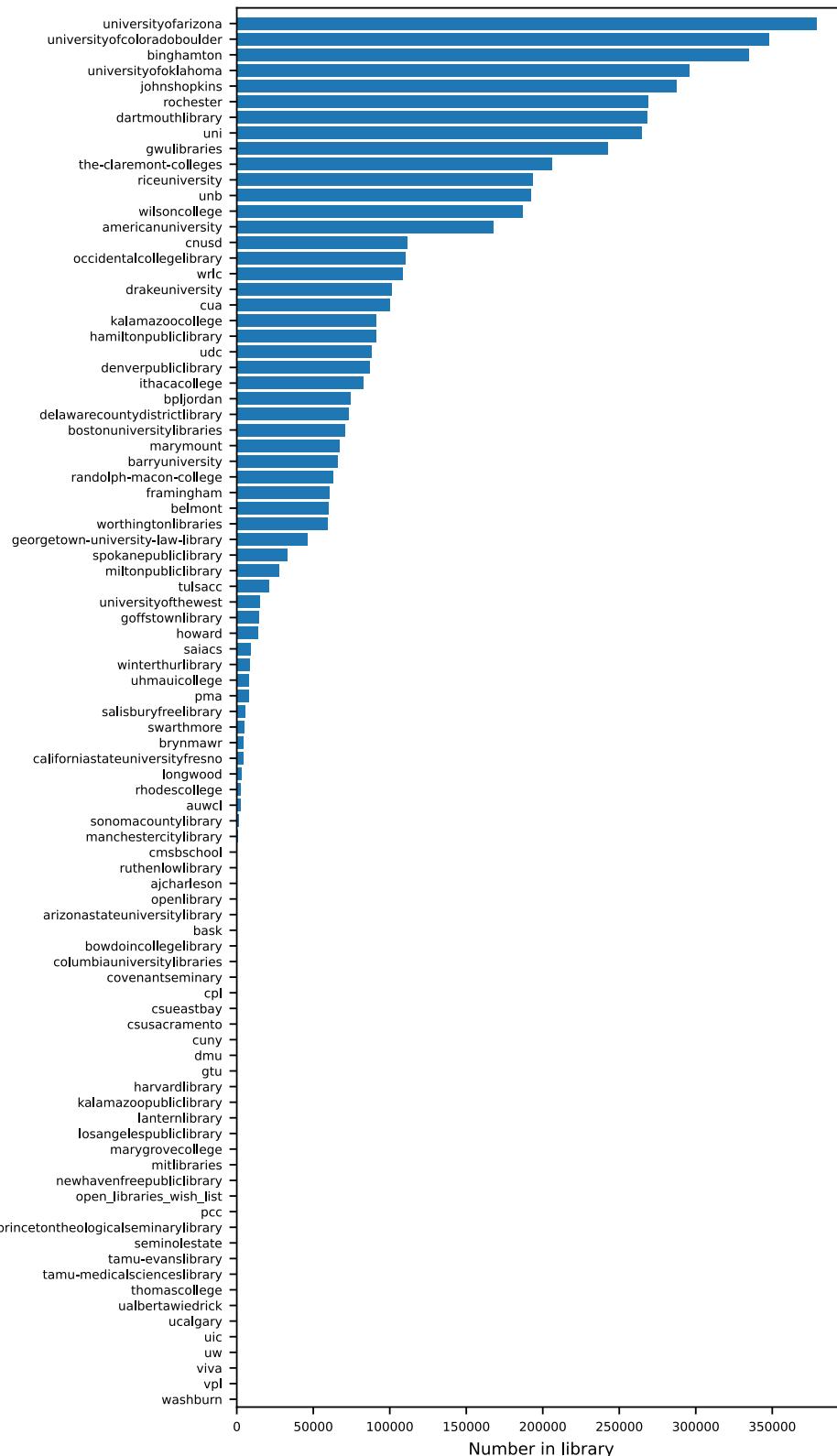
Figure 32: Number of items in partner library collections, as reported in IA records.

142. For each partner library, IA makes available to the public a set of files pertaining to the partner's collection. These are available on "Files" pages at URLs of the form https://archive.org/download/{collection_name}, such as https://archive.org/download/denverpubliclibrary-ol for the Denver Public Library.

143. Among the different sorts of items on a partner library's Files page are (1) files containing results of overlap analyses and (2) summaries of these analyses. The names of these files include the dates the overlap analyses were executed. For example, the file named "denverpubliclibrary_20190213_inlibrary_direct_matches.tsv" contains results of an overlap analysis performed with respect to the Denver Public Library collection on February 13, 2019. Each summary file indicates the number of ISBNs in the partner library's holdings that were provided to IA for the overlap analysis.

144. For each library currently in the Open Libraries program (that is, for each library listed in the openlibraries collection), I have used files on the library's Files page, as just described, to determine the dates on which overlap analyses were carried out. I also have determined the dates on which the library's holdings list changed in size, as indicated by the "Total unique ISBNs from <collection_name>" number in the overlap summary file.

145. Figure 33 below indicates with a dot the date of each overlap analysis for each partner library. A star is used in place of a dot to indicate dates on which the size of the library's holdings list changed.

62
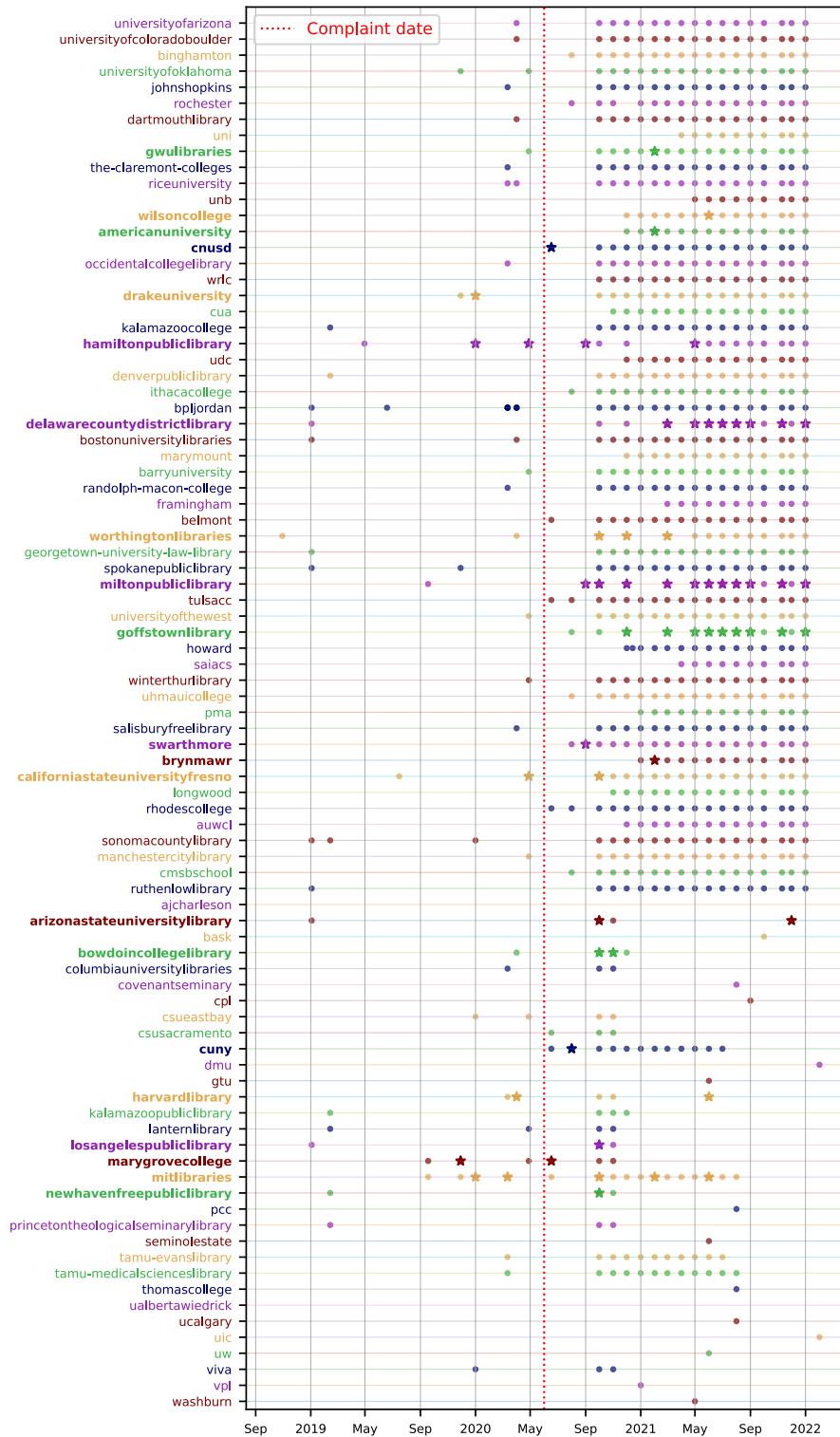
Figure 33: Dots represent overlap analysis reports for partner libraries; stars represent reports that indicate a change in collection size. Those libraries that report at least one change in size are in boldface.

146. From *Figure 33*, it is clear that IA instituted a routine of monthly overlap analyses for most

partners in late 2020. The red dotted line indicates the June 1, 2020 date the complaint in this

matter was filed. Prior to late 2020, overlap analyses were sporadic and few in number for the

current partners. The relative scarcity of stars in the figure reveals that it in general is uncommon

for IA to use updated holdings lists from partners. Indeed, changes in the holding lists are

reported for only 21 (24%) of the 87 partners, and only in 60 (6%) of all 992 size reports. Only

three libraries (Delaware County District Library, Milton Public Library, and Goffs Town

Library) show regular and frequent changes in holdings size.

147. As an example, the overlap analysis summary file for the February 13, 2019 Denver

Public Library overlap analysis is shown in the excerpt below, as downloaded from

https://archive.org/download/denverpubliclibrary-ol/denverpubliclibrary_20190213_overlap_summary.txt:

```
Overlap Summary for denverpubliclibrary @ 20190213

Total unique ISBNs from denverpubliclibrary    :           100382

.    Match type          .        ISBNs   %    IA items
------------------------:----------------------------
inlibrary direct matches          100302   99       98067
physical direct matches           100061   99       98238
promised direct matches            19299   19         723
------------------------:
```

148. The excerpt immediately above shows the holdings for the Denver Public Library

consisted of 100,382 ISBNs. These were matched against IA's holdings in a few different ways.

The "inlibrary direct matches" match type compares the partner's holdings against IA's scans in

the inlibrary collection, while the "physical direct matches" compares against IA's holdings that

have Box IDs (that is, books IA has in storage).[63] Recall that only a subset of books that have

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[63] The "inlibrary," "physical," and "promised" sets referenced here are defined in the source code file "update.sh" in the source code production designated INTARC00170849.

Box IDs are in the inlibrary collection, for reasons such as the publication date range restriction for addition to the inlibrary collection.

149. The inlibrary direct matches file contains 111,167 matches.[64] These reflect 100,302 ISBNs paired in different combinations with 98,067 scans. The 98,067 scans are able to match with more than 98,067 ISBNs, because, as discussed, IA's records for some scans maintain more than one ISBN for those scans. Through this process, IA found that its inlibrary collection matched with 100,302, or 99.9%, of Denver's 100,382 ISBNs. This enabled IA, pursuant to its practices, to increase the concurrent loan limit for up to 98,067 of its scans.[65]

150. After running an overlap analysis with a partner library, IA puts the results of the analysis into effect by updating the "Holdings" list. This is a list that IA maintains and, as described in an earlier section, consults to determine the concurrent loan limit for a given scan. IA adds the partner to the Holdings list in association with each inlibrary scan identifier for which the partner had a match.[66]

151. Because IA is continually scanning books, overlap analyses can show an increase in matches over time even if a partner library's holdings remain unchanged.

D. Takedown processing.

A. Background

152. IA's publicly posted Copyright Policy, dated March 2001 and still posted today, indicates that "[t]he Internet Archive respects the intellectual property rights and other proprietary rights of others" and invites anyone who believes that their "copyright has been

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[64] https://archive.org/download/denverpubliclibrary-ol/denverpubliclibrary_20190213_inlibrary_direct_matches.tsv.

[65] The script "generate-final-list.sh" includes a comment stating: "This ensures only one matched archive.org item is added for any source ISBN, even though we may have matched more than one in the overlap process."

[66] The scripts "cdl-audit.sh" and "cdl-adjust.sh" in the source code production designated INTARC00170849 accomplish this update. Note that items also may be removed from the Holdings list in the course of this process based on a change in the partner library's holdings.

violated by material available through the Internet Archive" to send a notice with certain

required information to the Internet Archive Copyright Agent via email to info@archive.org. *See*

https://archive.org/about/terms.php.

153. In this section, I review IA's technical capabilities to receive and respond to such

copyright notices, also known as takedown notices. In more detail in a later section of this report,

I discuss how IA exercised its capabilities to receive and respond to copyright notices concerning

Plaintiffs' works.

B. IA's Processes

154. IA's approach to receiving and processing notices has changed over time.[67]

155. Dating back many years, IA's approach relied upon an individual checking an inbox,

looking into the notice, and then taking whatever action IA deemed appropriate. There was no

database or spreadsheet with tracking of incoming notices, the status of responses, and any

related issues. Emails yet to be actioned were supposed to be marked as unread or flagged in

some other manner. There were no audits or reviews to determine whether incoming notices

were being missed or whether appropriate action was not being taken. This approach relied

almost entirely on individuals to execute correctly, without technological safeguards.

156. Starting in Summer of 2020, IA began to use a tool called Zendesk for its handling of

copyright notices. Zendesk is a software tool that, among other potential uses, can be used to

create support tickets from emails. It can automate responses, as well as enable users to view

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[67] The information in the next 6 paragraphs [157 to 162] is largely drawn from the deposition testimony of Chris
Butler. He testified as Defendant's corporate representative on topics involving IA's practices regarding
infringement notices. Mr. Butler has been an employee of Defendant since 2009. *See* Butler Tr. 27:1-2. Mr. Butler
has been the primary person in charge of fielding, processing, and responding to infringement notices since about
2013 or 2014. *See* Butler Tr. 26:2-23, 27:1-34:21, 41:11-83:1, and 93:1-97:13. *See also* Pls. Ex. 188
(INTARC00141406), which describes IA's procedures for responding to takedown notices concerning items in its
"lending library" (inlibrary collection).

tickets, initiate responses, and generate reports or analytics. *See* www.zendesk.com. Use of a tool like Zendesk, if properly implemented, would be expected to increase the organization, transparency, and reliability of IA's response to infringement notices.

157. When IA removes a scan from its in-library collection in response to a takedown notice, from a technical matter, it is done by employees with certain permissions (also referred to as "administrative privileges").

158. In taking action to remove or disable access to an alleged infringement, IA's employee accesses a web page associated with the scan named in the complaint called its "manage page." This page has, for a scan with identifier <id>, the address "https://archive.org/manage/<id>". A scan's manage page allows a person with administrative privileges to check a box or click a button to change various aspects of the scan's status. This is done using an interface that IA refers to as the "book dashboard."

159. The administrative interface that IA calls "ROMM"—standing for Revenge of MetaManager—which also is known as the book dashboard, allows for addressing a single identifier or multiple scan identifiers and applying tasks. That tool also allows the user to search by publisher name, author name or other fields and then to apply tasks against the results.

160. In past years, an IA employee would need to edit the scan's metadata via an "edit XML page", with XML being the format in which the metadata are maintained. But it is no longer necessary to manually edit metadata fields on the XML page, because an IA employee can now use the book dashboard to effect the change. The book dashboard is accessed via a scan's manage page.

161. As I described above, IA can ensure that scans of books with particular titles, authors, publishers, and ISBNs, are not placed in the inlibrary collection. The code includes lists of titles,

authors, and publishers to preclude from appearing in the inlibrary collection. The code I reviewed lists 123 titles, 5,537 authors, and 18 publishers.[68] The code also retrieves a private ISBN list from the IA Site and uses it to prevent scans with matching ISBNs from being added to the inlibrary collection. I have not seen this list and do not know its size.

162. In a section below, I explore IA's responses to copyright notices from Plaintiffs and how that compared to IA's technical capabilities.

E. Metadata maintenance.

1. Overview

163. "Metadata" generally refers to data concerning other data. By way of example, consider digital photography. A digital photograph is stored as a set of data, a series of numbers that represent the image itself, in a file. A typical digital camera will record metadata—data about this image—as extra information within the file. Such metadata might include the date and time the photo was taken, the location of the shot, the image resolution, and various camera settings. Additional metadata will be maintained about the image outside of the file, including the name of the file and the data that it was last modified. If the image is uploaded to a photo-sharing service, additional metadata typically will be attached, including the username of the uploader and a description provided by the uploader. As can be seen from this example, metadata may be generated and revised through both automatic and manual means. It may be stored either within the same file as the data or external to it.

164. Websites offering media items such as music, video, books, and images invariably maintain some metadata about those items. Titles, dates, names of creators, descriptions,

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[68] The code provides these names as patterns that each may match multiple sufficiently similarly named items, as I discussed earlier regarding the 123 titles matching the titles of the 127 works-in-suit.

comments, ratings, and so on are all examples of metadata encountered by users of services as diverse as Spotify (music), YouTube (video), Amazon (Kindle ebooks), and Instagram (images). Metadata are crucial to the presentation, discovery, and selection of content. When users browse or search services offering media, they commonly are browsing and searching the metadata, not the data that they metadata describe. If an item's metadata are incorrect, users may not be able to find it. Metadata are also crucial to a service's tracking of usage. Imagine a case in which a song is mislabeled with the wrong title and artist on a music service: users will not find it under the expected names, and compensation for streams of the song may go to the wrong rightsholder. For reasons such as these, quality and accuracy of certain key metadata are of substantial significance to sites offering media.

165. IA's frontend and backend systems related to its Book System rely upon the use of metadata regarding scans (*i.e.*, the digitized version of the print book with a designated scan identifier). These metadata include the fields of information displayed on a details page for each item on the IA Site, such as the name of the book and its author; topics; publisher; publication date; collections(s) into which IA designated the item; and whether it is an access-restricted item. Some of the metadata, such as title, author, and ISBN serve to identify a book; these are identifying metadata. Other metadata, such as the list of collections to which the book belongs, have other purposes. Together, these metadata facilitate a number of functions, such as finding the book by keyword query and dictating if IA's system will provide the book for permanent download rather than only temporary viewing / download.

166. The IA Site has webpages relating to IA's use of metadata. One webpage indicates, "Metadata is data about data. In the case of Internet Archive items, the metadata describes the contents of the items. Metadata can include information such as the performance date for a

69

concert, the name of the artist, and a set list for the event. Metadata is a very important element

of items in the Internet Archive. Metadata allows people to locate and view information. Items

with little or poor metadata may never be seen and can become lost."

https://help.archive.org/hc/en-us/articles/360018818271-Internet-Archive-Metadata (hyperlink

omitted).

167. Another webpage on the IA Site indicates, "All metadata for archive.org items are

stored in `<identifier>_meta.xml` and `<identifier>_files.xml` . The meta.xml file contains all of

the item-level metadata for an item (e.g. title, description, creator,

etc.)." https://archive.org/services/docs/api/metadata-schema/index.html. The webpage at the

foregoing URL describes "common metadata fields used on archive.org." That list of fields

explained includes, among others, the following: access-restricted; access-restricted-item;

addeddate; boxid; collection; contributor; identifier; openlibrary_edition; openlibrary_work;

operator; possible-copyright-status; publicdata; publisher; repub_state; republisher_date;

republisher_operator; scandate; scanfee; scanner; scanningcenter; source; sponsor; subject; and

title. For ease of reference, I have prepared a glossary of those terms, along with some of IA's

other terminology, as Appendix E to my report.

2. **Importance**

168. In the cases of scans for which the metadata that IA uses is inaccurate, IA's frontend

and backend systems do not function reliably with respect to features that rely upon the

inaccurate metadata. When the metadata in question are identifying metadata, such as title,

author, and ISBN, one book may be confused with another. This can lead to inaccuracies in other

metadata, such as the list of collections to which the book is assigned. For example, inaccurate

metadata can lead to situations such as the following:

a. IA delivering a copy of Book A to someone who wants Book B;

b. IA designating Book A for viewing or downloading on an unrestricted basis, rather than designating it into its inlibrary collection for temporary viewing / download;

c. IA exceeding its intended lending limits for Book A by confusing it with Book B;

d. IA under-counting loans (eligible concurrent, actual concurrent, and total) for Book A by attributing those loans to Book B; and

e. IA having an incorrect accounting of its digital holdings and how its digital holdings compare to a library's physical holdings.

169. These concerns are not merely theoretical. I have encountered several examples of IA's metadata substantially misidentifying books, which I detail below. IA does not have in place extensive quality-control systems to proactively detect and correct such misidentifications. Consequently, IA's Book System in cases includes and operates based on flawed identification metadata, which leads to problems such as those that I outlined in the prior paragraph occurring in actuality.

170. IA's difficulties with metadata can be seen in several ways. First, IA's documents produced in discovery contemplate and discuss metadata problems. Second, examples of bad metadata can be seen in public-facing view on the IA Site. Third, IA's selection of scans containing Plaintiffs' WIS included several whose identifying metadata did not match with the content of the scan.

3. IA's Processes

71

171. IA obtains metadata from a number of sources that it then associates with its digitized copies of print books.[69] If IA is digitizing a print book while providing a scanning service to a library, it typically obtains metadata from the library—either directly (e.g., via a spreadsheet, CSV file, or some other online data feed) or indirectly (such as via the WorldCat website, a third-party service). Where a scanning service for a library is not involved, IA obtains metadata from other sources. Sometimes the metadata are provided by a library as it donates physical books that they no longer wish to hold in their collections. In other instances, IA may search on the WorldCat website for metadata to associate with the item. In any event, IA creates or adds metadata during its digitization process. Both prior to republication and even after republication, IA also makes additions and/or changes to the metadata.

172. IA has created a variety of documents that describe its processes for digitizing print books, republishing the digital versions, and managing the items. A document entitled "Books Digitization Documentation Hub" depicts a number of such process documents.[70]

173. One of the documents at the Books Digitization Documentation Hub sets forth a list of "curate codes" within IA's quality assurance process.[71] They include:

> 123 Possibly not in public domain. Can be made dark by QA, loaders, or coordinators.
>
> 124 Removed by request of copyright holder or library. Can be made dark by QA, loaders, or coordinators.
>
> 140 Book and metadata do not match. Books with this problem should be fixed immediately in the scanning center (i.e., use post-Biblio to retrieve the correct record for the book that was scanned). The 140 code should only be used when something prevents this from being done right away, i.e., as a flag to fix the problem later.
>
> 152 Copyright evidence was reported incorrectly.

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[69] Mills Tr. 182:8-183:24.

[70] Pls. Ex. 18 (INTARC00140369).

[71] Pls. Ex. 20 (INTARC00140897).

72

174. Andrea Mills served as IA's corporate designee for certain deposition topics related to IA's digitization efforts. When asked about Curate Code 123, Ms. Mills explained how she is aware of metadata errors whereby IA's systems associate a digital scan with the wrong book.[72]

175. Another document at the Books Digitization Documentation Hub is entitled "Item Corrections Processes," and describes processes to be used for "correct[ing] various scribe item issues due to software, hardware, or operator error" after the item has been uploaded to Republisher.[73] The document, at subsection 3.9, recognizes that sometimes items are "created with an incorrect MARC record." As Ms. Mills confirmed, a MARC record is a library's record that identifies the book and data about the book.[74]

176. Another document at the Books Digitization Documentation Hub is entitled "Catalogue Item Tasks."[75] It explains that "[a]ll changes to the files or metadata of an item on archive.org are accomplished by catalog tasks." The document provides a glossary of tasks that describe the change being performed. The list of tasks explained includes: archive.php (a file is uploaded to an item), derive.php (the book is done and derivative access formats are being created), make_dark.php (making an item unviewable on archive.org), and other tasks. Each task that is run is given its own unique id, called a "task_id". Another one of the listed tasks is called "modify_xml.php" which the document explains as "Changes are being written to the metadata of an item. These changes can be submitted manually by a user, or automatically by software like

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[72] "Q. So does this mean that at this point in the process, Internet Archive's data for a book indicates that it's Book A, but the actual scan is of Book B? A. Yes, I would say that's the case. Q. And if the operator doesn't catch that difference, thereafter Internet Archive would be providing one book thinking -- where a system was actually thinking it was a different book; correct? A: Yes, that is possible. Q. And you've seen instances where the book scan didn't match the book metadata, and as a result, Internet Archive was delivering a different book than it thought it was delivering; correct? A. Yes, I've seen examples like that." (Mills Tr. 181:1-19) (objections removed from transcript).
[73] Pls. Ex. 23 (INTARC00141119).
[74] Mills Tr. 187:6-188:3.
[75] Pls. Ex. 170 (INTARC00138517).

Scribe3 or RePublisher, or by another task like a book_op.php." foregoing documents illustrate that IA recognizes that metadata problems occur during the course of operations that need to be corrected.

177. In a later section, I explore specific examples of metadata inaccuracies that would cause IA's frontend and backend systems relying on such metadata not to function reliably.

VI. **PLAINTIFFS' WORKS**

A. Data and scan productions

178. Plaintiffs attached as Exhibit A to the Complaint in this matter a numbered list of 127 WIS, providing for each a title, author, copyright registration number, and publisher. For example, item number 44 in their list has author "Grisham, John", title *Theodore Boone: The Accused*, copyright registration number "TX0007558149", and publisher "Penguin Random House." For convenience, this can be referred to as WIS #44.

179. IA subsequently identified to Plaintiffs 379 scans in its Book System responsive to requests for documents pertaining to the 127 WIS. For each of these 379 scans it provided data in files with conventional formats known as CSV and JSON.

180. For 254 scans, IA produced a version of each scan as a black-and-white PDF file based on its digitized copy of the book, with a Bates number added to each page. For the remaining 125 scans, IA produced a TXT file containing the text derived from the scan of each book, but not an image-based version of the scan. For two of the 379 scans, IA in addition produced the scan in a number of different formats it maintains on its system (INTARC00463344-45), including JP2 image files and unencrypted PDF and EPUB files based on those images.

74

181. The CSV files contain records of updates made to IA's files and metadata regarding a scan. IA refers to these records as the "catalog task history" for the scan; a document titled "Catalog Item Tasks" provides an overview of the sorts of tasks recorded in these files (INTARC00138517). Each CSV file pertains to one scan, and contains multiple lines, each comprising seven fields. Table 2 shows an example line from one file, INTARC00136118.csv. The file name indicates the Bates number for the file, in this case INTARC00136118. The first field, the "identifier," specifies the identifier assigned to that work by IA, in this case accused0000gris. The "cmd" field specifies a command applied to the metadata database, in this case "modify_xml", and the "args" field provides details of the update to be performed, which in this case involves updating the status of the scan to be "UNAVAILABLE", the number of active loans to be "1", and the total number of loans performed to be "2".

Table 2: Example data from a CSV file provided by IA for a copy corresponding to a WIS. The file in this case is "INTARC00136118.csv." The data from one line are shown here as a table in which the first column provides the field names and the second column gives an example of the content provided for each field.

Field name	Example contents
Identifier	accused0000gris
task_id	1759110427
Server	ia601507.us.archive.org
Submittime	2020-06-13 02:02:44.002889
Cmd	modify_xml.php
Submitter	lendingbot@archive.org

Args	<pre>{ '-changes':
	 [{"target":"metadata",
	  "patch":
	   [{"op":"add", "path":"/loans__status__status",
	      "value":"UNAVAILABLE",
	    {"op":"add", "path":"/loans__status__num_loans", "value":"1",
	    {"op":"add", "path":"/loans__status__num_waitlist", "value":"0",
	    {"op":"add", "path":"/loans__status__num_history", "value":"2",
	    {"op":"add", "path":"/loans__status__last_loan_date",
	      "value":"2020-06-13T02:02:43Z"}
	    ],
	    ...
	}</pre>

182. The JSON file provides a wide range of metadata about the scan, including author name ("creator"), title, ISBN(s), and publisher: for example, see Figure 34.

```
 1 { "files": [ ... list of files associated with entry ...],
 2 "page_numbers": {"confidence": 91.78082191780823,
 3    "identifier": "/var/tmp/autoclean/derive/accused0000gris/accused0000gris",
 4    "pages": [... page information ...]}
 5 "uniq": 1700626130,
 6 "created": 1606937399,
 7 "workable_servers": ["ia803206.us.archive.org", "ia903206.us.archive.org"],
 8 "server": "ia803206.us.archive.org",
 9 "item_size": 467625951,
10 "files_count": 23,
11 "item_last_updated": 1599457784,
12 "metadata":
13 { "noindex": "true",
14  "isbn": ["9781444728880", "1444728881", "144472889X", "9781444728897", "9781444756654",
15    "1444756656", "9781444728903", "1444728903", "9781444758474", "1444758470"],
16  "scanner": "station18.cebu.archive.org",
17  "creator": "Grisham, John",
18  "external-identifier":
19    ["urn:acs6:accused0000gris:epub:ccf77c33-3bdd-4b00-b6f3-dea9f6e6971e",
20    "urn:acs6:accused0000gris:pdf:5b3ed182-dca4-4ed8-9fae-ff25fbec51a1"],
21  "ppi": "300",
22  "republisher_date": "20200602122615",
23  "contributor": "Internet Archive",
24  "old_pallet": "IA18099",
25  "sponsor": "Kahle/Austin Foundation",
26  "invoice": "1652",
27  "operator": "associate-sahara-balio@archive.org",
28  "partner": "Innodata",
29  "scanfee": "0;1.00;200",
30  "subject": "Boone,
31  Theodore (Fictitious character) -- Fiction",
32  "scribe3_search_catalog": "isbn",
33  "page_number_confidence": "91.78",
34  "title": "The accused",
35  "repub_state": "19",
36  "scribe3_search_id": "9781444728903",
37  "openlibrary_edition": "OL28190499M",
38  "camera": "Sony Alpha-A6300 (Control)",
39  "ocr": "ABBYY FineReader 11.0 (Extended OCR)",
40  "scanningcenter": "cebu",
41  "description": ["271 pages ; 23 cm", "Theodore Boone is the thirteen year old who knows
42   more about the law than most adult lawyers. He certainly never expected to be the
43   victim of crime himself. But then his bike is vandalised, he's attacked while doing
44   his homework and, worst of all, framed for a robbery"],
45  "publisher": "London : Hodder & Stoughton",
46  "republisher_operator": "associate-meriam-bapilar@archive.org",
47  "collection_set": "printdisabled",
48  "identifier-ark": "ark:/13960/t54g0m29x",
49  "mediatype": "texts",
50  "collection": "litigationworks",
51  "access-restricted-item": "true",
52  "uploader": "station18.cebu@archive.org",
53  "date": "2012",
54  "addeddate": "2020-06-02 07:04:44",
55  "rcs_key": "24143",
56  "boxid": "IA1813618",
57  "openlibrary_work": "OL20823388W",
58  "publicdate": "2020-05-30 07:43:24",
59  "language": "eng",
60  "notes": "obscured text back cover<br />",
61  "republisher_time": "268",
62  "foldoutcount": "0",
63  "neverindex": "true",
64  "identifier-access": "http://archive.org/details/accused0000gris",
65  "tts_version": "3.6-initial-119-gda8d7dc",
66  "identifier": "accused0000gris",
67  "sponsordate": "20200531",
68  "imagecount": "294",
69  "scandate": "20200530100421"
70 },
71 "d2": "ia803206.us.archive.org",
72 "events": {"checkin_0": ["associate-meriam-bapilar", 1591071978, ""]},
73 "dir": "/11/items/accused0000gris"
```

Figure 34: JSON file provided by IA for the digital copy with scan identifier accused0000gris (INTARC00136608). To fit the JSON file on this page, its "files" and "pages" sections have been abridged, with comments denoted by "[... ...]" replacing their data.

B. Associating WIS with scans

183. IA did not provide a key to connect the 379 scans to the 127 WIS. That is, IA produced each scan as responsive to one or more WIS, but IA did not indicate which WIS those were. The JSON file for each scan contains a title for the book, but it does not necessarily exactly match that in Plaintiffs' Complaint Exhibit A listing the WIS.

184. The JSON files sometime differ in minor ways from Complaint Exhibit A in how they give author names and/or titles. For example, we find *Judgment Call* by "Jance, J.A." in Complaint Exhibit A (WIS #5), but *Judgment Call: A Brady Novel of Suspense* by "J. A. Jance" in the JSON file (INTARC00136632). Similarly, *Theodore Boone: The Accused* by John Grisham (WIS #43) appears in one JSON file (INTARC00136604) as *Theodore Boone, the accused* and as simply *The accused* in another (INTARC00136608). Thus, I used a mix of automated and manual methods to associate each of the 379 scans with the 127 WIS. In a first pass, I made associations based on title matching. Subsequently, I manually reviewed the remainder, looking at the scan file containing the content of the scan as needed. I found that:

- Eight of the scans do not match to any of the WIS. I excluded these in subsequent work, meaning I worked with a set of 379 – 8 = 371 distinct scans.

- Five of the scans match with two WIS. This is possible because these five scans are anthologies; that is, single books that each contain multiple novels. Consequently, when I list the scans for these WIS, five scans appear two times each. This means a full list of scans for the WIS, including five duplicates, has 371 + 5 = 376 scans.

- All 127 WIS have at least one associated scan.

185. Table 3 lists the eight scans that I excluded and a description as to the reason.

77

Table 3: Scans that I did not match to a WIS.

Identifier	PDF/TXT Bates	Note
catcherinrye0000sali_q3k8	INTARC00105596	Book about WIS #98 (*The Catcher in the Rye*); does not contain the WIS.
chroniclesofnarn0000lewi	INTARC00135582	Contains *The Voyage of the Dawn Treader*, which is not a WIS.
fivedysfunctions00patr	INTARC00044264	Workbook for use with WIS #64 (*The Five Dysfunctions of a Team: a Leadership Fable*); does not contain the WIS.
foulplay0000evan	INTARC00108452	Contains *Foul Play* by Steffie Hall, which is not a WIS.
isbn_9780439799256	INTARC00042040	Contains *Measle and the Wrathmonk*, which is not a WIS.
jdsalingerscatch00sali	INTARC00071898	Book about WIS #98 (*The Catcher in the Rye*); does not contain the WIS.
lordoffliesfathe00reil	INTARC00070668	Book about WIS #36 (*Lord of the Flies*); does not contain the WIS.
onlythreequestio00fish	INTARC00021250	A distinct earlier edition of WIS #25 (*The Only Three Questions that Still Count: Investing by Knowing What Others Don't*)

186. Table 4 lists the five scans that matched with two WIS.

Table 4: Scans that I matched to two WIS.

Identifier	PDF/TXT Bates	Note
littlehousetreas00wild	INTARC00004546	Contains WIS #118 (*Little House in the Big Woods*) & WIS #119 (*Little House on the Prairie*)
chroniclesofnar00lewi	INTARC00016602	Contains WIS #70 (*The Lion, the Witch and the Wardrobe*) & #71 (*The Magician's Nephew*)
chroniclesofnarn00lewi	INTARC00030140	Contains WIS #70 (*The Lion, the Witch and the Wardrobe*) & #71 (*The Magician's Nephew*)
completechronicl0000lewi	INTARC00120238	Contains WIS #70 (*The Lion, the Witch and the Wardrobe*) & #71 (*The Magician's Nephew*)
isbn_9780060598242	INTARC00072160	Contains WIS #70 (*The Lion, the Witch and the Wardrobe*) & #71 (*The Magician's Nephew*)

187. The results of this matching process are provided in the Excel file named "Tabulation.xlsx" that I prepared with this report. This is a comprehensive table that presents my association of scans with the WIS and various data derived from IA's JSON and CSV files.

    a.   The first three columns (A to C) contain the WIS number, title, and author, respectively, as listed in Exhibit A of the Complaint.

b. The fourth column (D) contains the Bates number of the corresponding scan file in PDF or TXT form IA produced containing the content of the scan.

c. The fifth column (E) contains the Bates number of the JSON file that IA produced for the scan.

d. Columns #6 through #36 (F to AJ) contain data derived from this JSON file.

e. Column #37 (AK) contains the Bates number of the CSV file that IA produced for the scan.

f. Columns #38 through #51 (AL to AY) contain data derived from this CSV file.

g. Columns #52 & #53 (AZ & BA) contain data derived from INTARC00474639, an Excel file IA produced to Plaintiffs on February 22, 2022 containing columns titled "Date Added to inlibrary" and "Date Darked (Remove from inlibrary)" for the scan.[76]

188. The Tabulation table contains 376 data rows reflecting the association of 371 distinct scans with 127 WIS. Five scans appear twice as described above.

189. Due to its large number of columns, the Tabulation table is not well suited for printing or presentation in a document. Instead, I have attached at the end of this report various exhibits that are based upon the Tabulation table, as described here and in the next section. See Exhibits T1-T10. I may create additional exhibits or summaries based upon the Tabulation table.

190. In Appendix C, I present my methodological notes regarding preparing the Tabulation table and exhibits derived from it.

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[76] This data source for "Date Added to inlibrary" has such dates for all scans of WIS except one (scan identifier "songsolomon00morr_536", which IA obtained from Library Genesis). My method (described in Appendix C) of determining the date of addition to the inlibrary collection is based on events recorded in the CSV files. In brief, it is to look for an explicit "add" event with value "inlibrary." However, the CSV files for many scans do not contain an "add" event, even though the data reflects that those scans are "inlibrary." The "Date Added to inlibrary" field in file INTARC00474639 both (a) agrees with the date of the "add" event in each CSV for which such an event is present and (b) provides inlibrary addition dates for all scans (but one) lacking such an "add" event in their CSV file.

191. The first exhibit I present based on the Tabulation table is simply a list associating the WIS with scans. **Exhibit T1** is an association of the WIS to the Scans provided by IA. For each Work-in-Suit, the first three columns are from Exhibit A to the Complaint, and the last column lists the one or more matching Scan identifier(s). From this, one can see that IA has one or two scans for some WIS and up to over 10 or 20 scans for others.

192. The second exhibit that I present adds information on Contributor and Digitizing Sponsor. In **Exhibit T2**, the first four columns are as in Exhibit T1; the last two provide, in addition, information about the Contributor and Digitizing Sponsor. The Contributor, as explained in Appendix E, is the person or entity that provided (and owns) the physical book being digitized. The Digitizing Sponsor is the person or entity who paid for the digitization.[77]

C. **History of Internet Archive's Usage of Works-in-Suit**

193. Based on the Tabulation table, I have prepared several exhibits reflecting IA's usage of the WIS.

194. I note that the loan data from the CSV files are incomplete. According to the February 14, 2022 declaration of Brenton Cheng, these contain loan information from on or around March 2017 though on or around September 2, 2020 and exclude a few short durations ("generally less than a couple days") within this period. Also, I note that IA ceased lending the 371 WIS scans in the period following Plaintiffs' filing the complaint in this matter on June 1, 2020. Thus, the loan data that IA provided excludes data on any loans prior to March 2017 or after around early September 2020.

195. My exhibits reflecting IA's usage of WIS include the following:

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[77] Mills Tr. 210:1-3.

196. **Exhibit T3** sets forth the maximum eligible concurrent loans and the total loans for each Scan that matches with a WIS, from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data). Data are divided into three periods: prior to 2019, 2019, and 2020. There is also a column that provides the overall number of loans. In Exhibit T3, the maximum actual concurrent loans data shows many instances in which IA provided a scan to more than one user at a time. By way of example, as to the book *Ship Breaker* by Paolo Bacigalupi (WIS # 4), while IA has only a single scan, IA provided 5 users with copies at a time in 2019. Moreover, IA provided up to 15 users at a time with copies in 2020.

197. **Exhibit T4** sets forth the total loans for each WIS, from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data). Here, I divided the data into three periods: prior to 2019, 2019, and 2020–obtained by summing across all Scans that match that WIS, with the number of such scans also specified. There is also a column that provides the overall number of loans. Exhibit T4 is a WIS-level view of Exhibit T2, summing, for each WIS, the loans made for the various scans that IA has created of that WIS. The exhibit illustrates that another way in which IA provides more users with access to a work is simply to have multiple scans for that work.

198. **Exhibit T5** sets forth total loans for each WIS, during the period from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data). As with the other exhibits, the loan data that IA provided does not include loans that occurred prior to March 2017 or after early September 2020. Numbers are obtained by summing across all scans that match that WIS, for all available data, with the number of such scans also specified. Exhibit T5 results from summing the loans in each time period in Exhibit T4. The lending totals vary by work-in-suit, with some having 1,000 or more.

199. **Exhibit T6** presents a closer look at 2020: Maximum actual concurrent loans and total

loans for each WIS before, during, and after the National Emergency Library period–obtained by

summing across all Scans that match that WIS. The National Emergency Library period is set to

be March 17, 2020 (representing a one-week buffer before Internet Archive's announced start

date of March 24, 2020) to June 17, 2020. Exhibit T6 results from focusing on the year 2020 in

Exhibit T4, breaking it into three periods.

200. **Exhibit T7** sets forth the number of de-duplicated ISBNs and additions to maximum

eligible concurrent loans for each scan that matches with a Work-in-Suit. As with the other

exhibits, the loan data that IA provided does not include loans that occurred prior to March 2017

or after early September 2020. Exhibit T7 is thus based on loan data only for the period roughly

from March 2017 to early September 2020. In Exhibit T7, the additions to the maximum eligible

concurrent loans are due to data matches with collections of partner libraries in IA's Open

Libraries initiative. The more ISBNs that IA associates with a single scan, the greater the

opportunity that the scan has to match with ISBNs in partner collections. This exhibit shows how

IA scales a single scan of a particular physical book in its possession into a much larger

dissemination scheme that involves copies of that scan being provided to multiple users at a time.

201. **Exhibit T8** sets forth Number of de-duplicated ISBNs and additions to maximum

eligible concurrent loans for each WIS—obtained by summing across all Scans that match that

Work-in-Suit. Exhibit T8 is likewise based on loan data only for the period roughly from March

2017 to early September 2020. Exhibit T8 is a WIS-level view of Exhibit T7, summing over the

scans comprising each WIS. This again shows the effect on availability of a work simply by

having more scans of the work.

202. **Exhibit T9** sets forth maximum actual concurrent loans, total loans, scan date,

republisher date, and inlibrary date, for each scan associated with a WIS, during the period from

March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which

IA provided data). Exhibit T9 reveals the dates when the scans associated with the WIS were

scanned, republished, and made available for lending in the inlibrary collection. However, the

data supplied by IA only covers dates that the Works in Suit were put in the inlibrary collection

during the March 2017 – September 2, 2020 time period; it does not include inlibrary dates

outside that time period. The same issue appears to exist for some of the republication dates. All

of the WIS were included in the inlibrary (i.e., "Books to Borrow") collection at some point in

time, and the subject of loans. However, for some scans, IA did not fully produce all the loan

data or dates as to when republished and when moved into the inlibrary collection.

203. **Exhibit T10** is a series of one-pagers per scan per WIS. Each corresponds to a unique

Identifier. Each sets forth the image of the book cover that IA shows for that scan, as well as data

as to scanning date, uploading date, republishing date, date added to inlibrary, and lending date.

It further sets forth the contributor, digitizing sponsor, box id, and number of distinct ISBNs.

204. Figure 35 is a tabulation that shows the scan dates for scans of the WIS. The figure

depicts scan dates on a quarterly basis from Q3 2009 through Q3 2020. The two highest quarters

of IA's scanning of WIS were Q4 2019 and Q1 2020.
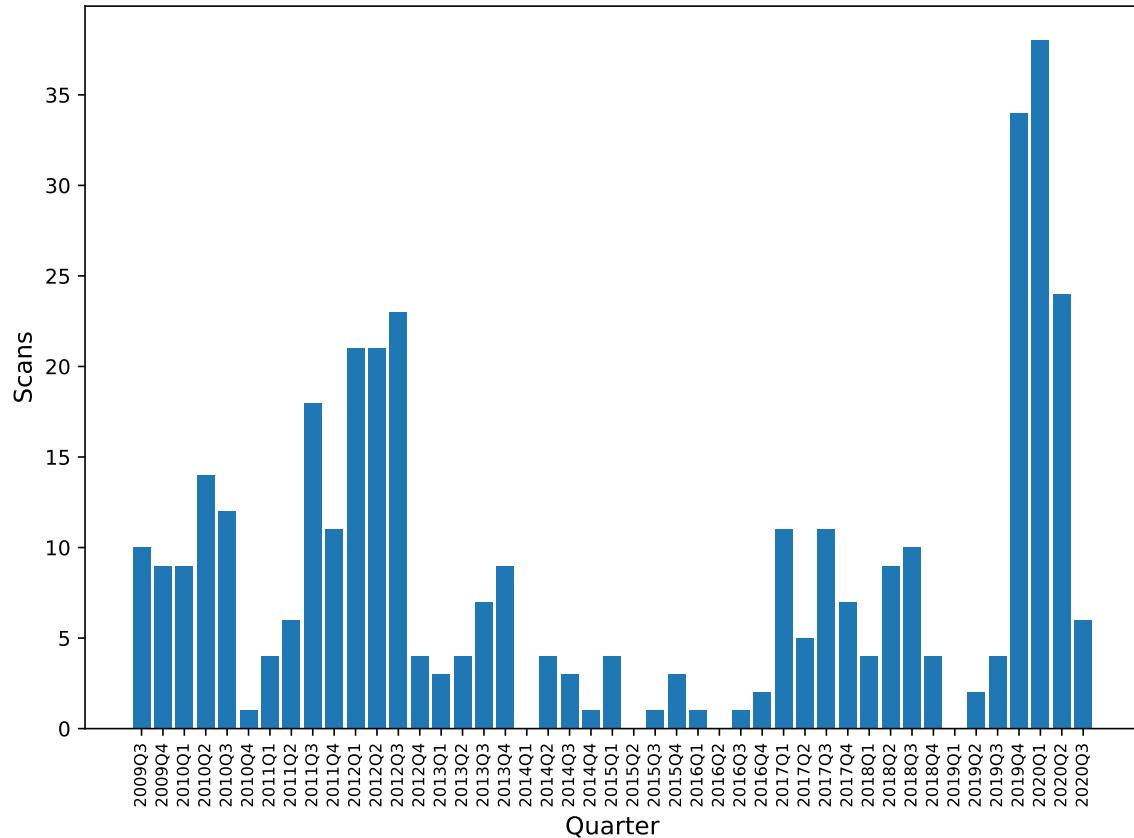
Figure 35: A tabulation of scandates for the scans of the WIS.

D. Recently provided materials regarding usage patterns—general and of WIS

205. I understand that in the final few weeks before this report was due, IA provided two

declarations dated January 31, 2022 and February 14, 2022 by Brenton Cheng, a Senior Engineer

at IA, and produced associated data and source code. These materials contain information

regarding, among other topics, usage activity of scans in general and usage activity of scans

containing the WIS in particular. The February 14 Cheng declaration (the "2/14 Cheng

Declaration") appears to be a subsequent version of the January 31 declaration, with generally

the same content but including some revisions and some additions.

Book Loan Return Data

206. A document titled "Book Loan Return Data" with a subtitle "generated by Brenton Cheng, 12/2/2021" contains two pie charts regarding 14-day and 1-hour loans.[78] The 2/14 Cheng Declaration at paragraph 10 explains (a) the 14-day chart shows the percentage of 14-day loans returned by users during each day of the 14-day period and (b) the 1-hour chart shows the percentage of 1-hour loans returned by users during each ten-minute segment of the 1-hour period. The 14-day chart is based on "all available data from October 2019 through December 2, 2021." The 1-hour chart is based on "all available data from June 2020 through December 2, 2021."

207. I observe that the pie chart for 14-day loans shows that 25% of such loans expire at the 14-day mark. As to the rest, 54% of such loans are returned on the first day, the second day is a much smaller fraction, the third day smaller still, and so on. This accounts for the final 75% of the loans.

208. I observe that the pie chart for 1-hour loans shows that 29% of such loans are returned within the first 10-minute segment, 5% in the second 10-minute segments, and the percentages for the third, fourth, and fifth 10-minute segments are smaller and smaller in series. The final pie segment does not differentiate between loans returned in the sixth 10-minute segment and loans that expire at the 1-hour mark, but together they comprise 58% of 1-hour loans. In other words, over half of all these 1-hour loans are returned or expire between 50-60 minutes after the loan commences.

209. This document also contains two line graphs. The first line graph shows the number of 14-day loans returned within the first day across what appears to be the stated October 2019 through December 2, 2021 range of the data. The graph reveals first-day returns increased

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[78] INTARC00471123.

substantially during the period of the National Emergency Library initiative and decreased

substantially after the introduction of 1-hour loans. The second line graph shows the number of

1-hour loans returned within the first 10-minute segment across what appears to be the stated

June 2020 to December 2, 2021 range of the data.

210. Per paragraph 10 of the 2/14 Cheng Declaration, the data underlying the preceding

charts, within the "Book Loan Return Data" document, "is stored on the Internet Archive servers

within the StatsD system." URLs to obtain exports of the data are provided under each chart.

Loans Staleness Project

211. IA also produced handwritten document titled "Loans Staleness Project" which

indicates that it "summarizes some findings about our loans system usage pattern in an effort to

characterize staleness."[79] It states its objectives are measuring and reducing "stale time." To do

so, it purports to examine loan activity for the single day of April 30, 2020. The 2/14 Cheng

Declaration at paragraphs 11-38 addresses questions regarding the Loans Staleness Project. Per

Paragraph 15 of the 2/14 Cheng Declaration, the project examined "the web logs alongside the

loan analytics database" in May 2020.

212. Per paragraph 25 of the 2/14 Cheng Declaration, the data were accessed by using several

scripts. I understand these scripts were very recently produced with Bates numbers

DSC_EXT000000201-24. There are 19 programs (Python and shell scripts) within this

production, and one documentation file.

213. Per paragraph 27 of the 2/14 Cheng Declaration, the date April 30, 2020 was chosen "as

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[79] INTARC00151679.

a starting point to see whether the patterns of loan activity reflected the loan return patterns, exemplified by the pie chart referred to above in INTARC00471123." This is the Book Loan Return Data analysis dated December 2, 2021 and discussed above.

214. Per paragraph 31 of the 2/14 Cheng Declaration, this project measured "interaction with pages of books in the online BookReader" and not interaction with downloaded books (such as books downloaded in PDF or EPUB formats). Moreover, even as to the BookReader, per paragraph 37 of the 2/14 Cheng Declaration, BookReader page view events were analyzed, not other BookReader events such as bookmarking or changing font size.

215. Nothing within what IA called its "Loan Staleness Project" depicts or analyzes user activity with the digital books once downloaded from the IA Site.

216. I am not able to verify the accuracy or reliability of the handwritten document titled "Loans Staleness Project." IA has not provided either the data that the handwritten document purports to summarize and analyze, or the weblogs from which that data can be derived.

Download and Loan Counts

217. Paragraph 38 of the 2/14 Cheng Declaration presents two line charts reflecting the numbers of PDF and EPUB download attempts per day during the period November 1, 2019 through January 31, 2022. These charts include URLs for exports of the data shown.

218. Paragraph 38 of the 2/14 Cheng Declaration also present two line charts showing the numbers of 14-day loans and 1-hour loans during the period November 1, 2019 through January 31, 2022. These charts include URLs for exports of the data shown. I note that the number of 14-day loans taken by users per day increased about threefold, from 25K to 75K, at the beginning of the period of the National Emergency Library. It declined to 50K by the end of the NEL period. Around the date of the end of the NEL, IA instituted its 1-hour loan option. These shorter-term

87

loans began at around 48K per day and have generally trended up since then, to about 66K per day when the data set ended on January 31, 2022. Meanwhile, in the post-NEL period, 14-day loans have continued steadily at about 50% of their pre-NEL level. Altogether, IA issued more loans per day after the NEL period than prior to it. Some of this boost must be due to the rapid expiration of 1-hour loans necessitating repeat borrows to finish the use of a book. However, the fact that the scale of post-NEL activity is comparable to the rate of borrowing during NEL is suggestive that some of the boost is due the exposure generated by the NEL.

219. Paragraph 38 of the 2/14 Cheng Declaration states "the percentage of total PDF download attempts relative to total borrow events is 15.8%." He also states that "The percentage of total ePub download attempts relative to total borrow events is 3.3%." In sum, downloads constituted 19.1% of total borrow events during the defined time period. As I explain in the next paragraph, the 19.1% figure is far below the percentage of PDF and ePub downloads relative to total borrow events where downloading to PDF and ePub is an option (*i.e.*, 14-day loans).

220. I have used the data exports referenced above to confirm the 15.8% and 3.3% figures reported by Mr. Cheng. However, I note that in arriving at these numbers, he divided by the sum of 14-day and 1-hour loans, despite the fact that PDF and EPUB downloads are available only for 14-day loans. A more meaningful download-to-loan ratio is obtained by dividing the number of download attempts by the number of loans that permit such downloads; that is, the number of 14-day loans. In the table below, I present counts of each sort of event across the full date range considered by Mr. Cheng along with percentages with respect to 14-day loans. I find that the number of PDF and EPUB download attempts together is 62.8% of the number of 14-day loans. Separately, PDFs are 51.9% and EPUBs are 10.9%.

| 14-day loans | 13,793,385 |

1-hour loans	31,437,549
PDF download attempts	7,154,753
EPUB download attempts	1,506,489
PDF as % of 14-day loans	51.9%
EPUB as % of 14-day loans	10.9%
PDF and EPUB as % of 14-day loans	62.8%

Loan Analytics Database Output for Works-in-Suit

221. I have reviewed an Excel file named INTARC00471125-CONFIDENTIAL.xlsx that I understand IA produced to Plaintiffs on January 31, 2022, and which the 2/14 Cheng Declaration describes at paragraphs 5, 9, and 39.

222. Based on Mr. Cheng's description, I understand the Excel file to contain output from a "Loan Analytics Database" reflecting events related to loans from April 25, 2020 onward of scans that IA associated with the WIS. Further, I observe that this loan data would pertain to loan events for only a limited period thereafter. As explained above, IA attempted to remove the WIS from its inlibrary collection shortly after Plaintiffs commenced this lawsuit on June 1, 2020.

223. I found that the file contains records for 43,255 events between April 25, 2020 and September 14, 2020. These events involve 26,253 distinct loans as indicated by a "loan_id" column. They pertain to 350 distinct scans as indicated by an "identifier" column. I recognize many of the identifiers as among those pertaining to the WIS and reflected in my Tabulation table described in a previous section.

224. The records include 14,889 "borrow" and 2,019 "browse" events, both related to the initiation of loans. As these numbers sum to fewer than 26,253 distinct loans, I conclude that the data do not contain a record of initiation of every loan_id.

225. Along similar lines, the records include 14,084 "expire", 1,578 "expire_browse", 5,761 "return", and 854 "return_browse" events, all related to the ending of loans. As these numbers sum to fewer than 26,253 loans, I conclude that the data do not contain a record of the ending of every loan_id.

226. Some loans will have begun before the period covered by the data, and some will have finished after the period covered by the data. It remains to be determined if that explanation accounts for all of the shortfalls noted above. In any case, the data apparently do not contain the complete histories for the 26,253 loan_ids active during the April 25 to September 14 time period. For 12,863 loan_ids, only a single event is indicated in the data.

227. In addition to the above sorts of events, the records include 3,048 "access_pdf" and 1,022 "access_epub" events, reflecting a step in the process of users downloading PDF or EPUB versions of books that they have borrowed.

228. I have determined that the "Loan Analytics Database" contains data for at least one scan identifier for every WIS. In addition, I have determined that the database indicates at least one download event ("access_pdf" or "access_epub") for every WIS except WIS #72 (*Legend* by Marie Lu) and WIS #73 (*Station Eleven*, by Emily St. John Mandel). These two WIS are unusual, and may represent a breakdown in IA's recordkeeping or production of data as to these

two WIS, in that the only events in the Loan Analytics Database for their scan identifiers are "expire" events dated May 22, 2020.[80]

Web Log Data for Works-in-Suit

229. Per paragraph 9 of the 2/14 Cheng Declaration, IA produced web log data reflecting "usage of items displayed in BookReader, usage of the read aloud feature, and requests for encrypted PDF or encrypted ePub token files." IA recently produced INTARC00472081 consisting of 17 files that appear to be this sort of web log data.

230. These files have filenames indicating they collectively contain data from on or about March 8, 2017 through on or about September 10, 2020. These files together have a total of 2,217,092 lines, with one line per logged event.

231. Within the logged events are URLs of scans on the IA Site, including the scan identifiers. I recognize many of the identifiers as among those pertaining to the WIS and reflected in my Tabulation table described in a previous section. I preliminarily conclude these web log data are limited to events regarding the scans IA associated with WIS.

232. After processing the logged events, I found they are limited to just 33 days within a 1,284-day period between March 8, 2017 and September 11, 2020, inclusive. In other words, the logged events occurred on only 2.6% of the days in the period.

233. Despite this sparseness of the logs with respect to days covered, I examined them for instances of use of the BookReader's Read Aloud feature. This is the only set of data produced by IA in this matter that contains usage records of this feature.

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[80] These expire events consist of 34 for WIS #72 identifier legend00luma, and 212 total for WIS #73 identifiers stationeleven0000mand and stationelevennov0000mand. Based on the other data, the likelihood of 246 loans but with no engagement or downloading is extremely slim.

234. Using BookReader on the IA site, I observed that when the Read Aloud feature is active, the browser issues requests to an IA web server for a script named BookReaderGetTextWrapper.php. Each such request contains the scan identifier for the scan being viewed in the BookReader and simultaneously read aloud.

235. From the web log data, I extracted all the scan identifiers found in requests for the BookReaderGetTextWrapper.php script. I found these consisted of 142 (38%) of the 371 distinct scan identifiers for the WIS. These 142 scan identifiers are associated with 76 (60%) of the 127 WIS. I conclude that for 60% of the WIS, there are instances of usage of the Read Aloud feature reflected in the available web log data. I list these WIS in Exhibit C.

E. The works-in-suit are members of a much larger population of Plaintiffs' works that Internet Archive scanned and provides to users

236. The WIS consist of 127 works drawn from the catalogs of the four Plaintiffs. I was asked to assess how IA has copied and used books from Plaintiffs' broader "in-print" catalogs, which collectively consist of hundreds of thousands of items. In order to address this question, I studied the extent to which IA's inlibrary ("Books to Borrow") collection contains scans for works that the four Plaintiffs have in their catalogs in both print (hardcover or paperback) and electronic forms. For this project, I made use of catalogs for Hachette Book Group (67,550 items, HACHETTE0002576), HarperCollins Publishers (112,221 items, HC0003508), Penguin Random House (190,471 items, PRH0068115), and John Wiley & Sons (157,110 items, WILEY0011680). I understand that these in-print catalogs reflect items that the Plaintiffs currently make commercially available. Each item in the catalog has a distinct ISBN and represents the publication of a work in particular format. For example, a work (that is, a given title by a given author) available in one hardcover, one paperback, and one electronic format would have a distinct ISBN for each format and appear three times in the catalog.

92

237. To accomplish this study, I wrote and executed several programs to process Plaintiffs'

catalogs, determine the availability of Plaintiffs' works for borrowing on the IA Site, and present

the results. In Appendix D, I present my methodology in detail. Here, I provide a brief overview.

238. I first used a program **prepare_data.py** that reads a publisher's catalog file and outputs,

for each work for which the catalog contains entries for both physical (hardcover or paperback)

and electronic copies, a line containing a type, either P (physical) or E (electronic) plus the

item's ISBN, author, title, and publication date.[81] This output is written to a file named

"<publisher>_all_lookups.csv." For example, analysis of the Penguin Random House catalog

results in two lines for the work "The Shape of Water" by Andrea Camilleri, corresponding to

physical and electronic editions, respectively:

> P,9780142004715,Andrea Camilleri,the shape of water,2005
> E,9781440623332,Andrea Camilleri,the shape of water,2005

This program also writes a file named "<publisher>_counts.txt" containing the following

statistics based on the publisher's catalog: the number of ISBNs, the number of physical

(hardcover and paperback) ISBNs, the number of electronic ISBNs, the number of works having

both physical and electronic ISBNs (which I refer to as "qualifying works")[82], and the number of

physical and electronic ISBNs for the qualifying works. In this analysis, as above, I define a

work as a unique combination of author and title. The focus of my analysis will be the qualifying

works in Plaintiffs' catalogs, and in particular their physical (hardcover and paperback) and

electronic ISBNs.

239. I then used a second program, **ia_lookup.py**, that queries the IA Site to determine

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[81] Note that the HarperCollins catalog does not contain publication dates. Consequently, HarperCollins is not included in reports described in this section that depend on publication dates.
[82] I used the "qualifying works" for my technical analysis, not to suggest any legal implications.

whether each of the physical and electronic ISBNs for the qualifying works is present in the

Internet Archive. This program queries the IA Site by using the program "ia," also known as the

IA Command-Line Interface (or Tool), available from the Internet Archive.[83] For example,

running the ia program with the command indicated below yields the identifier

"shapeofwaterinsp00andr" in response from the IA Site, indicating that this ISBN

9780142004715 exists in the inlibrary collection:

> *Command issued:* ia search -i isbn:9780142004715 collection:inlibrary
>
> *Response from IA:* shapeofwaterinsp00andr

The output of **ia_lookup.py** is written to a file named "<publisher>_all_results.csv" containing

one line for each ISBN examined, indicating with a "Y" or "N" whether or not the ISBN was

found in the inlibrary collection, and if so, its IA scan identifiers that were received from IA.[84]

For example, the following line in an "all_results" file indicates that ISBN 9780142004715 is to

be found in Internet Archive's inlibrary collection with identifier "shapeofwaterinsp00andr":

Y,9780142004715,Andrea Camilleri,the shape of water,['shapeofwaterinsp00andr']

240. I then used a third program, **analyze_results.py**, to take the "all_lookups" and

"all_results" files for a publisher and produce a report on the results of the lookups. This

program adds to the file "<publisher>_counts.txt" the following statistics: the number of

attempted ISBNs that the lookup program found in the inlibrary collection; the number of works

represented by these ISBNs (which I refer to as the inlibrary works); and the ratio of the inlibrary

works to the qualifying works, which is the percentage of qualifying works that were found in

the inlibrary collection. This program also prepares a file named

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[83] https://archive.org/services/docs/api/internetarchive/cli.html.

[84] The response to a lookup for a single ISBN will contain multiple scan identifiers in cases in which IA has assigned the same ISBN to multiple scans.

"<publisher>_all_year_info.csv" that breaks down the lookup results by publication year. For

each publication year, this file lists the number of qualifying works and the number of inlibrary

works (that is, the number of the qualifying works published that year that were found in the

inlibrary collection).

241. I used a fourth program, **plot_year_data_all.py** to plot, for each publisher, the numbers

of qualifying works (green) and inlibrary works (red). In *Figure 36* below, I present this for two

publication date ranges: all available dates, and all dates through 2015. I chose 2015 because, as

I described in an earlier section, IA's policy calls for it not to add to the inlibrary collection scans

of books published in the past five years. Thus, in searching the inlibrary collection for works in

the Plaintiffs' catalogs, it is to be expected that works published in 2016 or later will be absent.

My results show that this is indeed generally the case. While IA may have scanned works

published in the past five years, its normal process prevents them from being assigned to the

inlibrary collection.
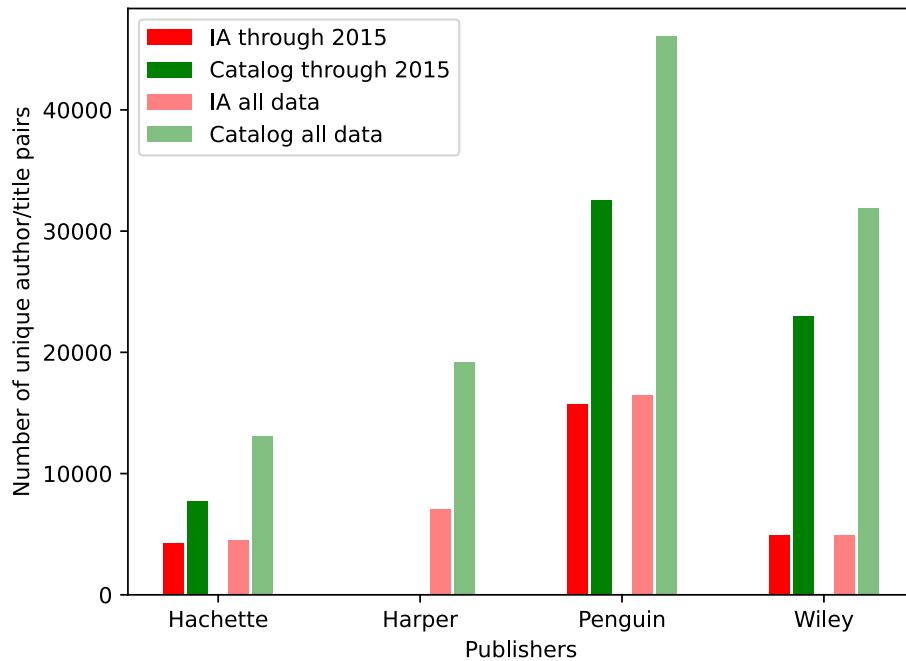
Figure 36: Availability on IA Site of unique qualifying works that are found in IA's inlibrary collection (Red) vs. all published works for the four publishers (Green), for two different time periods: through 2015, and for the full period over which IA provided data.

242. The same program plots, for each publisher, the percentage of qualifying works that were found in the inlibrary collection. This is shown below. Again, I present this for two publication date ranges: all available dates, and all dates through 2015.

96
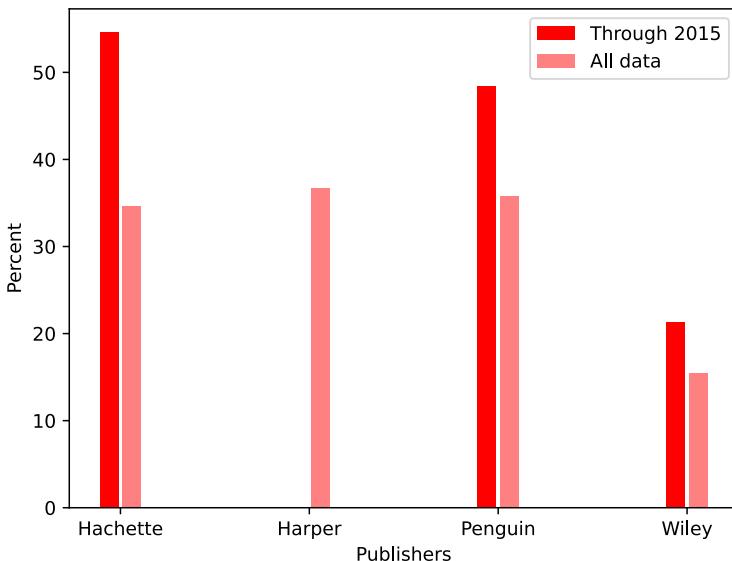
Figure 37: Alternative version of Figure 36 that gives, as a percentage for each publisher, the proportion of all unique qualifying works that are found in IA's inlibrary collection, for two different time periods: through 2015, and for the full period over which IA provided data.

243. Based on my analysis, and as shown in Figure 37 above, I found that the following percentages of Plaintiffs' qualifying works were present in the IA's inlibrary "Books to Borrow" collection across all publication dates:

      h. 34.6% for Hachette Book Group

      i. 36.7% for HarperCollins

      j. 35.8% for Penguin Random House

      k. 15.5% for John Wiley & Sons

244. Based on my analysis, and as shown in the figure above, I found that the following percentages of Plaintiffs' qualifying works were present in the IA Site's inlibrary "Books to Borrow" collection for all publication dates through 2015:

      l. 54.6 for Hachette Book Group

      m. 48.4% for Penguin Random House

      n. 21.3% for John Wiley & Sons

97

245. In Table 5 below, I present these results with the underlying work numbers on which they are based.

Table 5: Number of qualifying works in publisher catalogs, and the number of those works found in IA's inlibrary collection, for all provided data (left) and for all data through 2015 (right).

Publisher	All provided data			All provided data through 2015		
	IA	Catalog	%	IA	Catalog	%
Hachette	4519	13057	34.6	4220	7734	54.6
Harper	7055	19205	36.7	n/a	n/a	n/a
Penguin	16496	46059	35.8	15746	32520	48.4
Wiley	4933	31870	15.5	4889	22985	21.3

246. Finally, I used a fifth program, **plot_year_data.py**, to plot the data in the "<publisher>_all_year_info.csv" files for the period 1990 to 2015, inclusive. I plot in *Figure 38* to *Figure 40* for each of Hachette, Penguin, and Wiley, the yearly numbers of published qualifying works, and the number of those works that are to be found in IA's inlibrary collection. In each figure, the green bars indicate the total number of qualifying works published in each year, while the red bars indicate the number of those works to be found in IA's inlibrary collection; the numbers above the red columns express the percentage of all qualifying works published in each year that are to be found in IA's inlibrary collection.

98
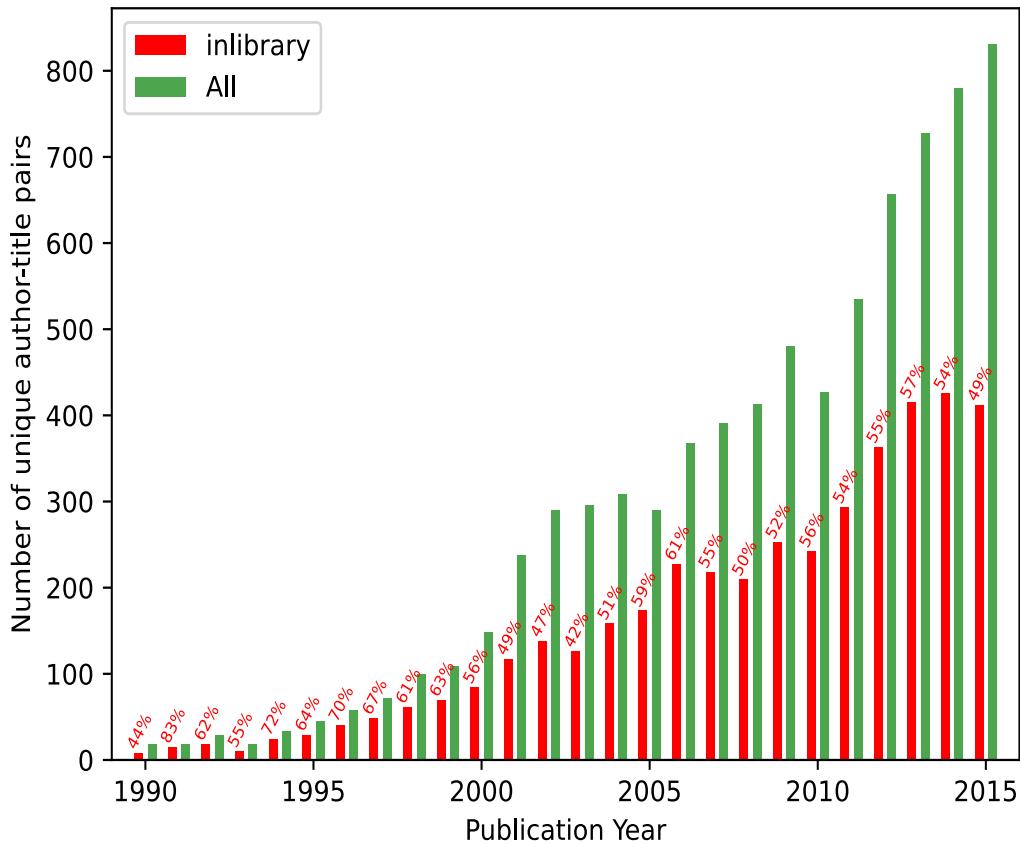
Figure 38: Availability of works within IA's inlibrary collection vs. all qualifying works published by Hachette during the years 1990-2015, inclusive.
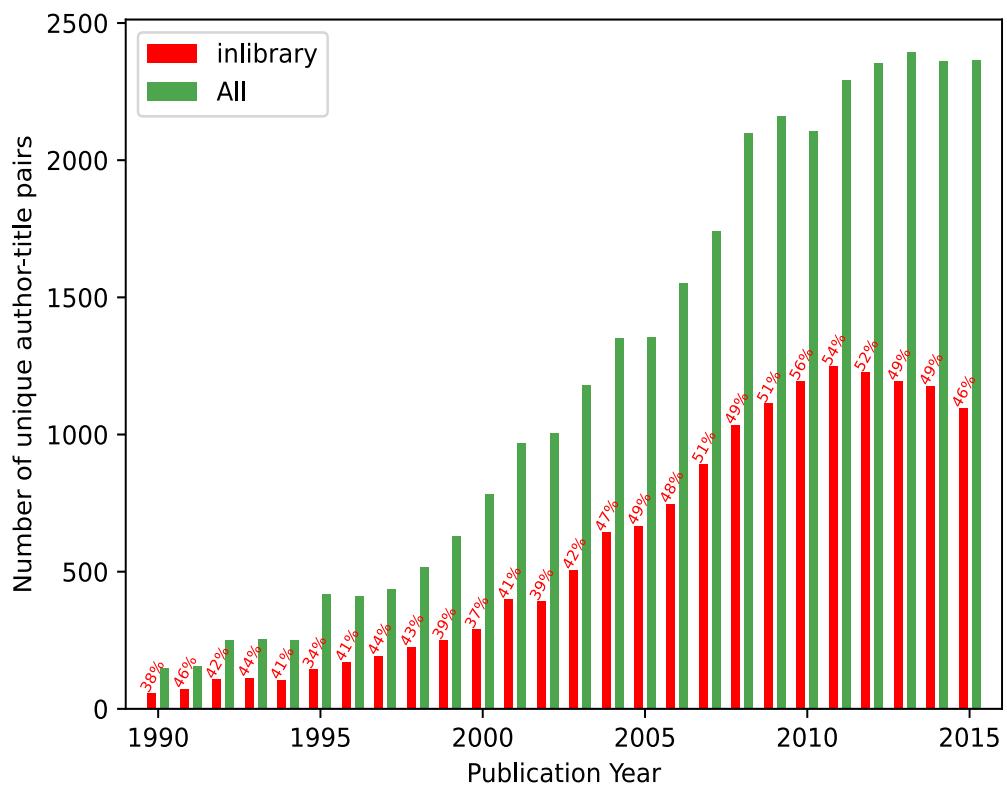
Figure 39: Availability of works within IA's inlibrary collection vs. all qualifying works published by Penguin Random House during the years 1990-2015, inclusive.
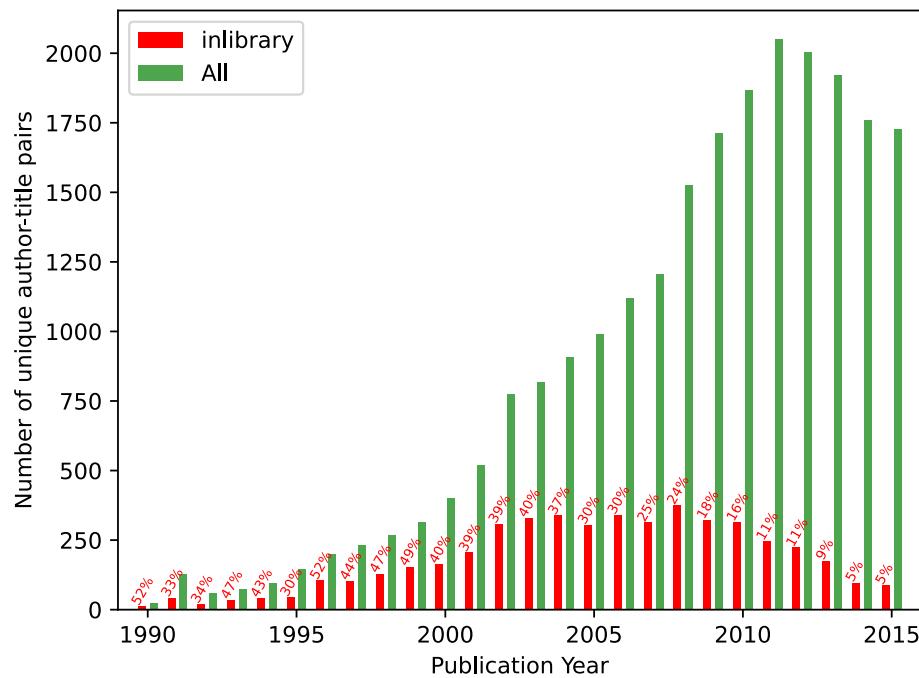
Figure 40: Availability of works within IA's inlibrary collection vs. all qualifying works published by Wiley during the years 1990-2015, inclusive.

247. As a supplement to the above analysis, I examined the dates on which IA created the scans found, per the preceding analysis, to be present the inlibrary collection and contain Plaintiffs' qualifying works from their catalogs. I used a program **fetch_ia_metadata.py** to obtain from the IA Site the metadata record (in JSON format) for each of the scans. I then used a program **review_metadata.py** to extract the scan dates and plot their distribution for each publisher. Each of the figures below (*Figure 41* to *Figure 44*) shows the number of scans created by IA each month between mid 2009 and the present (February 2022) for the qualifying works in the indicated publisher's catalog.

248. These figures reveal that IA's addition of Plaintiffs' works to the inlibrary collection has increased substantially since the June 1, 2020 date of the complaint in this matter.
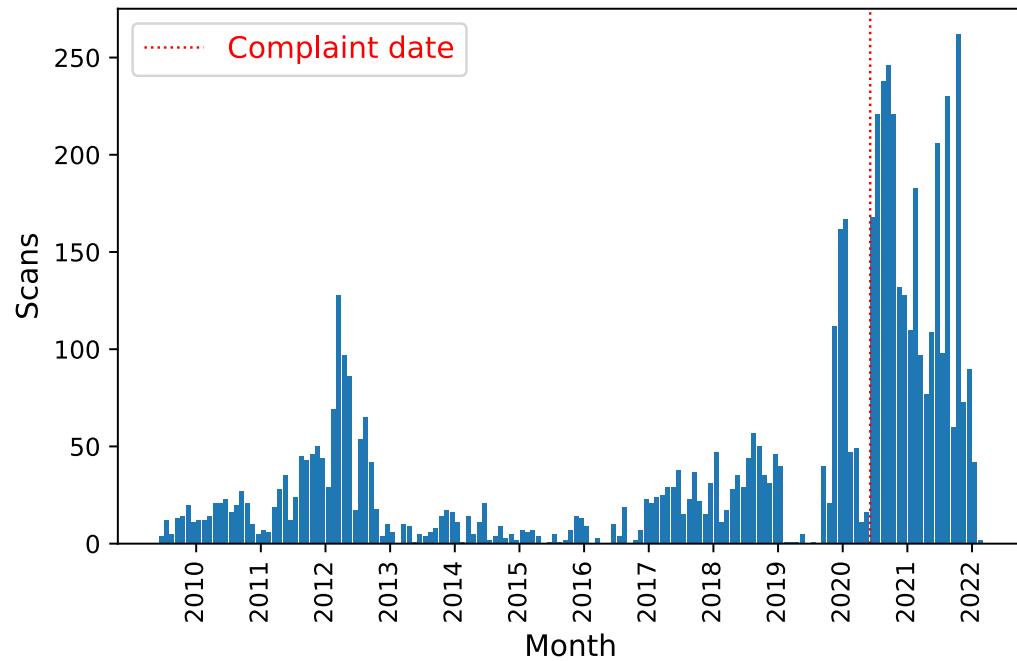
Figure 41: Distribution indicating the number of inlibrary scans made by IA each month of qualifying works in the Hachette catalog.
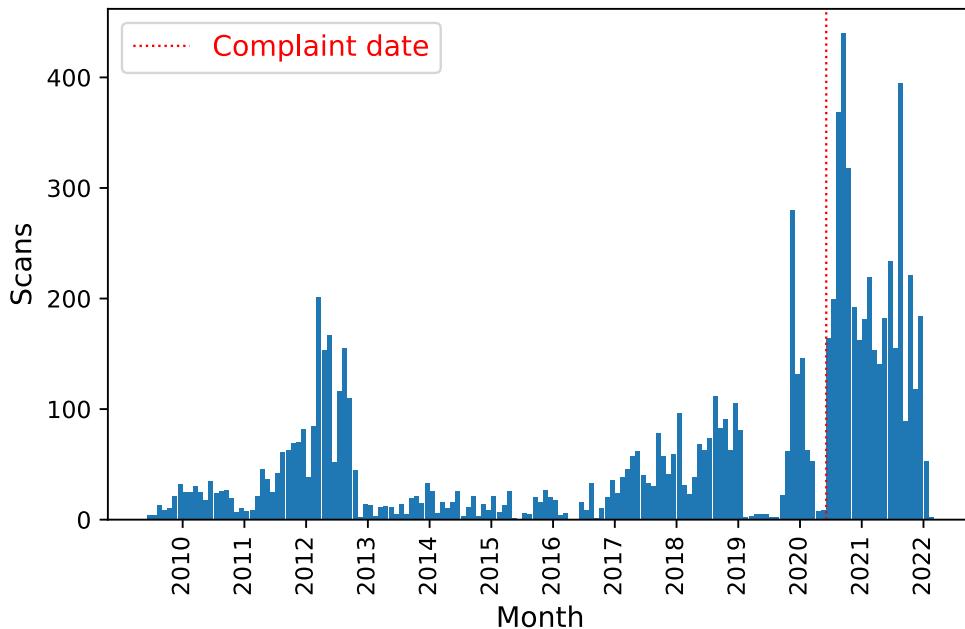
Figure 42: Distribution indicating the number of inlibrary scans made by IA each month of qualifying works in the Harper catalog.
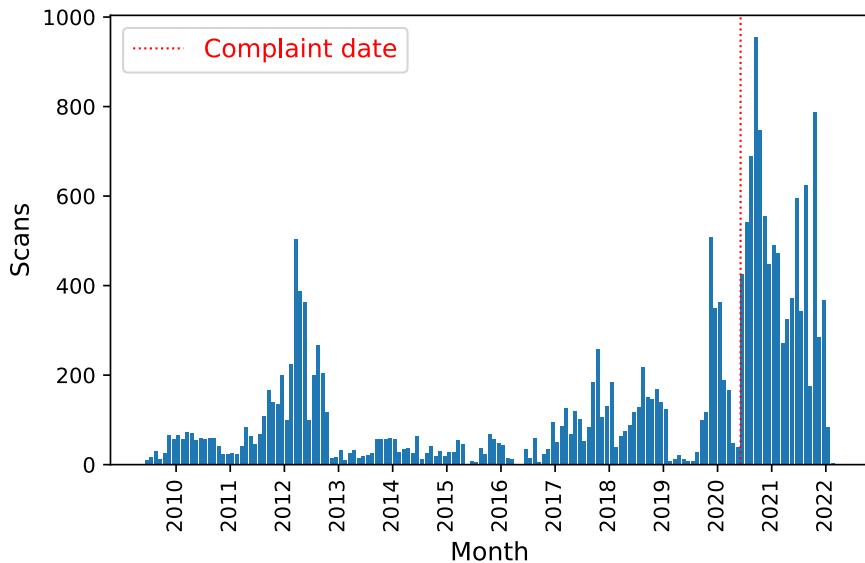
Figure 43: Distribution indicating the number of inlibrary scans made by IA each month of qualifying works in the Penguin catalog.
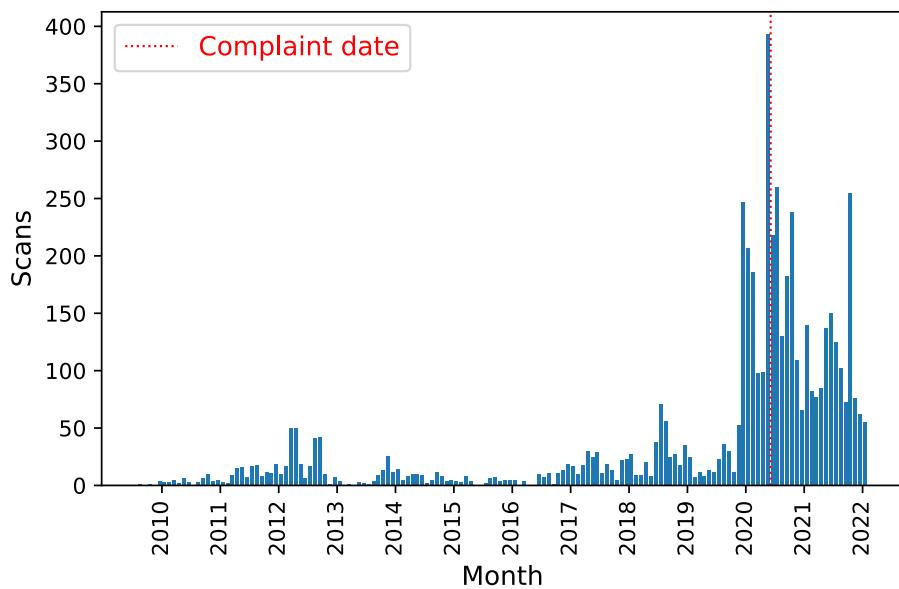
Figure 44: Distribution indicating the number of inlibrary scans made by IA each month of qualifying works in the Wiley catalog.

103

VII.   IA's Response to Takedown Notices and the Complaint

249. In many instances, anti-piracy companies working for Plaintiffs have sent copyright notices to IA identifying unauthorized copies of works to be removed.

o.   An anti-piracy company, named MarkMonitor, sent notices to IA on behalf of Hachette[85] and on behalf of Penguin Random House.[86]

p.   Another anti-piracy company, named Link-Busters, sent notices to IA on behalf of Penguin Random House[87] and on behalf of HarperCollins.[88]

q.   Another anti-piracy company, named Digimarc (formerly Attributor), sent notices to IA on behalf of Hachette[89].

r.   As IA has acknowledged, sometimes these infringement notices can identify hundreds of alleged infringements in a single notice.[90]

s.   As to IA's production of discovery in this matter, I understand there are over 20,000 emails to IA from the following email addresses:[91]

- piracytool@link-busters.com
- abuse@link-busters.com
- hachette.antipiracy.services@ap.markmonitor.com
- prh.antipiracy.services@ap.markmonitor.com
- remedies@attributor.com
- ingridbearpark@link-busters.com

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[85] *See*, *e.g.*, INTARC00193275 (approx. 560 URLs), INTARC00193296 (approx. 245 URLs) and INTARC00193420 (approx. 250 URLs)

[86] *See*, *e.g.*, INTARC00328847 (7 URLs) and INTARC00328828 (4 URLs)

[87] *See*, *e.g.*, Pls. Ex. 223, INTARC00328300 (approx. 23 pages of URLs), INTARC00328325 (approx. 20 pages of URLs), and INTARC00328346 (approx. 21 pages of URLs)

[88] *See*, *e.g.*, INTARC00324652 (approx. 27 pages of URLs)

[89] *See*, *e.g.*, INTARC00328780 (approx. 100 URLs)

[90] "Q. Some of the takedown notices you receive from anti-piracy firms such as Link-Busters can have -- contain many identifiers or URLs in them that the anti-piracy firm is asking the Internet Archive to remove or disable access to; correct? A. Yes. Q. And this is a 38-page document with URL after URL for which the Internet Archive is being asked to remove or disable access to; correct? A. This document reflects 38 pages with many URLs and a takedown notice request for those URLs." Butler Tr. 187:8-18.

[91] I understand that the search was via the "DocAuthor" lookup function in Relativity.

250. Plaintiffs have also directly sent copyright notices to IA demanding the removal from IA's inlibrary collection of unauthorized copies of their works. By way of example:

   t. Wiley sent take down notices directly to IA.[92]

   u. Hachette sent IA letters asking IA to take down the entire catalogue of a specific author's work.[93] The examples cited here are for the authors David Baldacci, Jonathan Safran Foer and David Sedaris.

   v. PRH sent IA a list of all the books in its catalogue and demanded that IA not include them in its inlibrary collection.[94]

   w. HarperCollins, via its in-house legal department, sent a letter to IA requesting IA to discontinue lending for books still under copyright.[95]

251. There were copyright notices from Plaintiffs to IA as early as April 13, 2011. *See* INTARC00405704. Plaintiffs have continued sending infringement notices into the period after this suit commenced. *See* INTARC00302443 (notice from June 10, 2020).

252. In response to this lawsuit, as explained above, IA could have searched by publisher name to obtain a results set of scan identifiers, and then removed or disabled access to them, and kept them out of the inlibrary collection, including using the techniques described above.

253. Plaintiffs commenced this lawsuit with the filing of the Complaint on June 1, 2020. Plaintiffs' Complaint describes the list of works in Exhibit A to the Complaint as an "illustrative, non-exhaustive list of in-copyright works."[96]

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[92] *See* e.g., WILEY0000344, WILEY0000349 and WILEY0000444.
[93] *See*, *e.g*., Pls. Ex. 211 (INTARC00297349) and its attachment Pls. Ex. 212 (INTARC00298622), INTARC00297304 and its attachment INTARC00297305 and INTARC00297353 and its attachment INTARC00297354.
[94] PRH's 2014 email PRH0072294 with the catalogue as the attached spreadsheet, PRH0072296.
[95] Exhibit 198, INTARC00409351 with attachment INTARC00409352 and INTARC00462002 with attachment INTARC00462005.
[96] Complaint, paragraph 20.

256. Following filing of this lawsuit, IA removed the books specifically listed in the Complaint from IA's inlibrary collection. Today, per IA production of JSON data files, these scans are in a collection named "litigationworks."

257. However, following filing of this lawsuit, IA did not remove or disable access to thousands of other scanned copies of Plaintiffs' books in IA's inlibrary collection. As I explained above, there are thousands of scans of books in Plaintiffs' in-print catalogues that are in IA's inlibrary collection for users to access.

258. As to copyright notices IA received before the lawsuit, IA also failed to remove or disable access to certain of the alleged infringements cited in those notices, both for WIS and for other works.

259. One of the WIS is the book *Franny & Zooey* by J.D. Salinger. The identifier "frannyzooey00saliric" corresponds to that book, and it was listed (including by identifier) in copyright notices sent to IA on July 5, 2018 and November 9, 2018.[97] Even though it appeared in those two prior notices, IA did not remove or disable access to its scanned copy. Just before commencing this lawsuit, IA's scanned copy of *Franny & Zooey* by J.D. Salinger, with the same identifier, "frannyzooey00saliric," remained available for download, and was indeed downloaded, from IA's "inlibrary" collection.[98]

260. Another Work in Suit is *The Mysterious Benedict Society* by Trenton Lee Stewart. The identifier "mysteriousbenedi00stew" corresponds to that book, and it was listed (including by identifier) in 35 copyright notices sent to IA between March 26, 2018 and May 22, 2018.[99] Nonetheless, IA did not remove or disable access to its scanned copy. Just before commencing

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[97] Pls. Ex. 201 (INTARC00168439) and Pls. Ex. 202 (INTARC00168554).
[98] T. Offner Decl., 2-7-2022, para. 118 and AG0000555 (describing and depicting download on May 27, 2020).
[99] See Appendix F

this lawsuit, IA's scanned copy of *The Mysterious Benedict Society* by Trenton Lee Stewart, with the identifier "mysteriousbenedi00stew," remained available for download, and was indeed downloaded, from IA's "inlibrary" collection.[100]

261. One of the WIS is *The Mysterious Benedict Society and the Perilous Journey* by Trenton Lee Stewart. The identifier "mysteriousbenedi00stew_0" corresponds to the book, and it was listed (including by identifier) in 36 copyright notices between March 26, 2018 and May 22, 2018.[101] Nonetheless, IA did not remove or disable access to its scanned copy. Just before commencing this lawsuit, IA's scanned copy of *The Mysterious Benedict Society and the Perilous Journey* by Trenton Lee Stewart, with the identifier "mysteriousbenedi00stew_0," remained available for download, and was indeed downloaded, from IA's "inlibrary" collection.[102]

262. WIS also include the following books written by author James Patterson: (a) *I Funny: A Middle School Story*; (b) *Invisible*; and (c) *Middle School: The Worst Years of My Life*. On April 13, 2020, Hachette emailed IA requesting that it remove or disable access to all James Patterson books. IA responded on April 14, 2020 acknowledging the email and confirming a good faith effort to identify and disable lending access for James Patterson books.[103] Nonetheless, the following WIS remained available for download, and were indeed downloaded, from Defendant's "inlibrary" collection on May 20-21, 2020:

      i. *I Funny: A Middle School Story* by James Patterson, with the identifier "ifunny0000patt_w7e5."[104]

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[100] T. Offner Decl. para. 129 and AG0000780 (describing and depicting download on May 20, 2020).
[101] Appendix F
[102] T. Offner Decl. para. 131 and AG0000848 (describing and depicting download on May 20, 2020).
[103] Pls. Ex. 217 (INTARC00299976).
[104] T. Offner Decl. para. 105 and AG0000435-63 (describing and depicting download on May 20, 2020).

ii. *I Funny: A Middle School Story* by James Patterson, with the identifier "ifunny0000patt."[105]

iii. *Invisible* by James Patterson and David Ellis, with the identifier isbn_9780316405348."[106]

iv. *Middle School: The Worst Years of My Life* by James Patterson, with the identifier "isbn_9780316101691."[107]

v. *Middle School: The Worst Years of My Life* by James Patterson, with the identifier "middleschoolwors0000patt."[108]

263. Besides works specifically listed in the Complaint, IA failed to remove or disable access to other works that were cited, including by identifier, in numerous copyright notices. Below are some examples, involving authors who have at least one title specifically listed in the Complaint.

264. The URL http://archive.org/details/treasureworthsee00brow corresponds to the book *A Treasure Worth Seeking* by Sandra Brown. The identifier "treasureworthsee00brow" was subject to 79 take down notices from January 23, 2018 to May 22, 2018.[109] As of February 22, 2022, the book remains available to borrow via the "inlibrary" collection: see *Figure 45*.

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[105] T. Offner Decl. para. 104 and AG0000400-34 (describing and depicting download on May 20, 2020).
[106] T. Offner Decl. para. 106 and AG0000464-88 (describing and depicting download on May 21, 2020).
[107] T. Offner Decl. para. 102 and AG0000489-525 (describing and depicting download on May 21, 2020).
[108] T. Offner Decl. para. 103 and AG0000526 and AG0000554 (describing and depicting download on May 20, 2020).
[109] Pls. Ex. 217 (INTARC00299976).
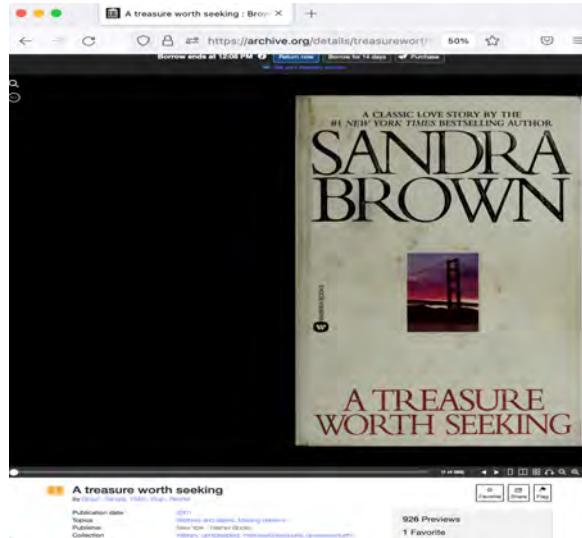
Figure 45: The book A Treasure Worth Seeking by Sandra Brown is available to borrow on Feb 22, 2022.

265. The URL http://archive.org/details/temptationskiss00sand corresponds to the book *Temptation's Kiss* by Sandra Brown. The identifier "temptationskiss00sand" was subject to 88 take down notices from December 29, 2017 to May 22, 2018.[110] As of February 22, 2022, the book remains available to borrow via the "inlibrary" collection: see *Figure 46*.
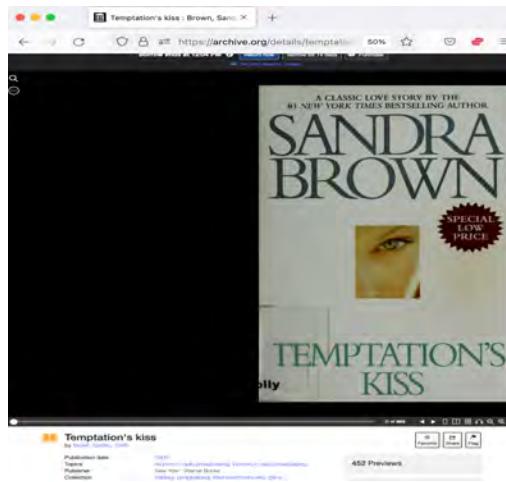
Figure 46: The book Temptation's Kiss by Sandra Brown is available to borrow on Feb 22, 2022.

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[110] Pls. Ex. 217 (INTARC00299976).

109

266. The URL http://archive.org/details/slowheatinheaven00sand corresponds to the book *Slow Heat in Heaven* by Sandra Brown. The identifier "slowheatinheaven00sand" was subject to 92 take down notices from December 15, 2017 to May 22, 2018.[111] As of February 22, 2022, the book remains available to borrow via the "inlibrary" collection: see Figure 47.
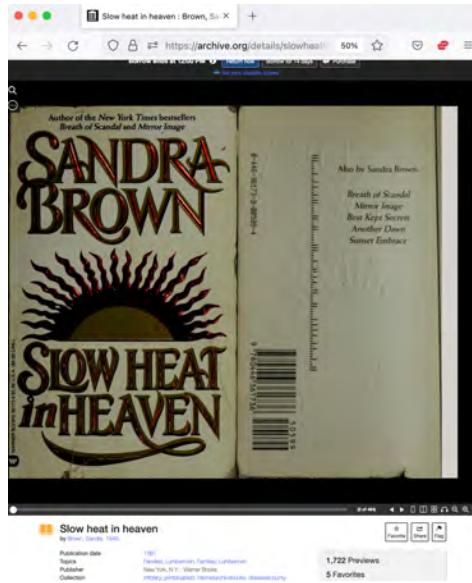
Figure 47: Slow Heat in Heaven by Sandra Brown is available to borrow on Feb 22, 2022.

267. The URL http://archive.org/details/rosiedunne00aher corresponds to the book *Rosie Dunne* by Cecelia Ahern. The identifier "rosiedunne00aher" was subject to 75 take down notices from January 29, 2018 to May 22, 2018.[112] As of February 22, 2022, the book remains available to borrow via the "inlibrary" collection: see Figure 48.

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[111] Pls. Ex. 217 (INTARC00299976).
[112] Pls. Ex. 217 (INTARC00299976).

Figure 48: The book Rosie Dunne by Cecelia Ahern is available to borrow on Feb 22, 2022.

268. On April 6, 2020, Hachette sent IA an email requesting the removal of all David Baldacci works. *See* INTARC00297349 email and attachment INTARC00297350. On April 9, 2020 IA acknowledged the email and confirmed a good faith effort to identify and disable lending access for David Baldacci books.[113] But, as shown in Pls. Ex. 214, IA failed to disable lending access to two of David Baldacci's books. In addition, subsequent to that email, IA scanned and uploaded additional copies of books authored by David Baldacci.[114]

269. Hachette sent IA a similar request for author Jonathan Safran Foer. IA acknowledged receiving and confirmed a good faith effort to identify and disable lending access.[115] Nonetheless, many copies of Mr. Foer's books remained available for downloading from IA's inlibrary collection. Table 6 lists those that appear in the inlibrary collection as of February 19, 2022:

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[113] INTARC00298622.
[114] Pls. Exs. 215-16, 225-51.
[115] INTARC00297304, INTARC00297305 and INTARC00298619.

Table 6: Copies of books by Jonathan Safran Foer in the IA inlibrary collection as of February 19, 2022.

URL	Title	Author
https://archive.org/details/everythingisillu0000foer	Everything is Illuminated	Jonathan Safran Foer
https://archive.org/details/hereiam0000foer_h8m6	Here I Am	Jonathan Safran Foer
https://archive.org/details/extremelyloudinc0000foer_h8a2	Extremely Loud & Incredibly Close	Jonathan Safran Foer
https://archive.org/details/everythingisillu0000foer_k5a0	Everything is Illuminated	Jonathan Safran Foer
https://archive.org/details/extremelyloudinc0000foer_u8u5	Extremely Loud & Incredibly Close	Jonathan Safran Foer
https://archive.org/details/everythingisillu0000foer_p5l2	Everything is Illuminated	Jonathan Safran Foer
https://archive.org/details/hereiam0000foer_t0u7	Here I Am	Jonathan Safran Foer
https://archive.org/details/hereiam0000foer_u9e5	Here I Am	Jonathan Safran Foer

270. The foregoing examples are illustrative, not exhaustive. I may cite or testify to additional examples of the same type as the case proceeds.

271. On July 23, 2014, Plaintiff Penguin Random House ("PRH") emailed its catalog to IA in an Excel spreadsheet, demanding that IA remove "[u]nauthorized, scanned versions of Penguin Random House titles being lent to patrons... immediately." The email added that the "attached file includes both print and eBook isbn for all Random House titles, and print isbns (only) for Penguin titles. It includes close to 60,000 unique isbns. Please let us know the time frame in which we can expect these titles to be removed, and if you need anything additional from us to facilitate this process." In subsequent email, IA indicated it reviewed the list and disabled lending access to the items.[116]

272. I assessed whether scanned copies of the books listed in PRH's catalog, as provided to IA in July 2014, are in IA's inlibrary collection presently. I did this by querying the IA Site for availability in the inlibrary collection of the books listed in that spreadsheet. Of the 58,754 ISBNs listed in the July 2014 PRH catalog, 35,413 (60.3%) remain in PRH's current commercial catalog, and 23,341 (39.7%) do not. Looking at what fraction of these books are to be found in IA's inlibrary collection, I determined that the inlibrary collection contained:

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[116] *See* PRH0072294 (email); PRH0072296 (excel attachment); and PRH0052943 (further email).

- 47.1% (16,681[117] of 35,413) of the 2014 catalog books that are in the current catalog;

- 48.7% (11,366 of 23,341) of the 2014 catalog books that are not in the current catalog;

- 47.7% (28,047 of 58,754) of all 2014 catalog books.

273. I further reviewed the catalog that PRH provided to IA in July 2014, in order to see whether it included any of the PRH WIS. That review revealed that WIS were listed in the catalog provided to IA in July 2014. Nonetheless, IA thereafter loaned digitized copies of those WIS to users.[118] Some examples are listed in Table 7.

Table 7: Seven WIS titles that were listed in the catalog provided to IA by PRH in July 2014.

ISBN	Title	Author	WIS#	Scan identifier
9780448463322	Who Is Bill Gates?	Patricia Demuth	21	whoisbillgates0000demu
9780143038412	Eat Pray Love 10th-Anniversary Edition	Elizabeth Gilbert	31	eatprayloveonewo00eliz_0
9780140283334	Lord of the Flies	William Golding	36	lordofflies00gold_1
9780803733046	How I Discovered Poetry	Marilyn Nelson	80	howidiscoveredpo0000nels
9781583334676	NeuroTribes	Steve Silberman	106	neurotribeslegac0000silb

274. Based on the observations above, I conclude that IA's actions with respect to copyright notices have been inconsistent and fallen short of its technical capabilities.

VIII.   A Look At Specific Examples, And Impact, Of Bad Metadata

275. Earlier in my report, I explained above how inaccurate metadata causes frontend systems and backend systems that depend upon such data to function unreliably. I overviewed how IA's formal process documents contemplate that IA's records will include metadata errors.

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[117] I note that 12,318 of these 16,681 works are "qualifying works" in the sense used in this report, i.e., works for which there is both a physical and electronic ISBN in the PRH catalog.

[118] *See, e.g.*, Exh. T3. *Also see* T. Offner Decl. (describing and depicting capturing and downloading inlibrary WIS).

As I describe below, public-facing pages on the IA Site also reveal the existence of metadata inaccuracies. IA's internal communications also reveal the existence of metadata problems.

276. An example of public-facing pages of the IA Site revealing the existence of problematic metadata can be seen at https://archive.org/details/thomasberrym00patt. Here, the item is a digitized copy of the book "Total Control" by the author David Baldacci. However, the metadata on the details page is for a different book, entitled "The Thomas Berryman number" by James Patterson: see

Figure 49.
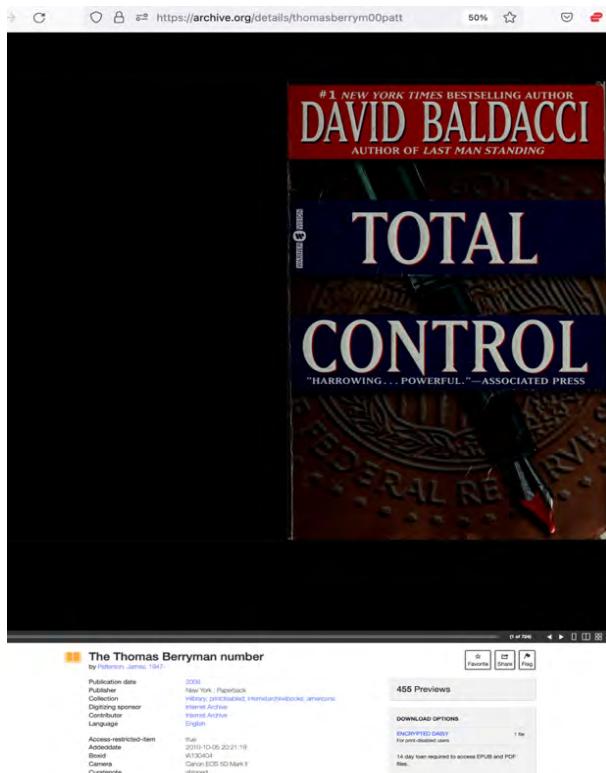
Figure 49: The scan with identifier "thomasberrym00patt" has metadata for "The Thomas Berryman number" but is in fact a scan of Total Control by David Baldacci.

277. By way of another example, *Figure 50* shows a screenshot of a details page on the IA Site for identifier "isbn_9780439799256."[119] The metadata are for the C.S. Lewis book entitled *The Lion, the Witch, and the Wardrobe*, but the scan is a copy of a different book, entitled *Measle and the Wrathmonk*.[120] Because the C.S. Lewis book is a work in suit, IA produced a copy of the scan. I reviewed the scan and, just as shown in Figure 51 below, it is indeed a copy of *Measle and the Wrathmonk*. As with the James Patterson / David Baldacci example above, this example shows how IA's records can indicate that a scan of Book A is a scan of Book B.
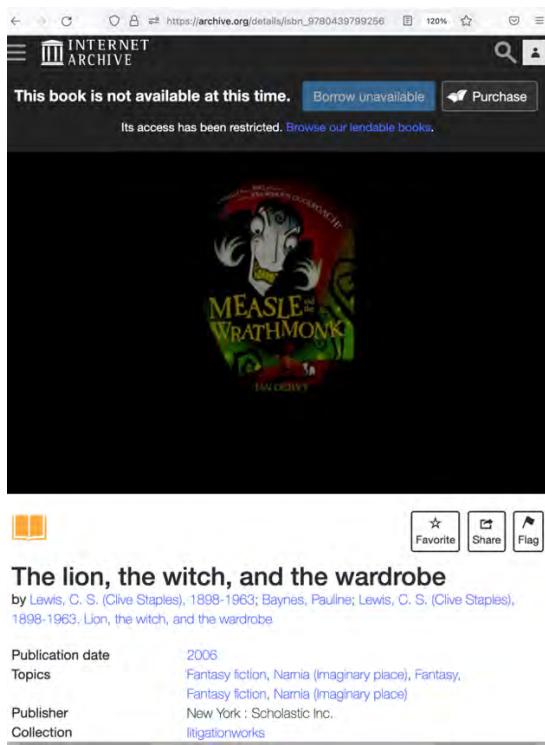
Figure 50: The cover shown on the IA Site for the book with identifier "isbn_9780439799256" does not match its metadata.

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[119] *See* https://archive.org/details/isbn_9780439799256.
[120] *See* INTARC00042040.

Figure 51: The first part of the file INTARC00042040.txt provided by IA for the scan with identifier "isbn_9780439799256." This file contains the text of "Measle and the Wrathmonk."

278. In this matter, IA produced 379 digitized copies of books, along with associated metadata, for which the identifying metadata suggested the scans contained the 127 WIS. As I reviewed these scans, I found six cases, listed in Table 8, in which the title and author metadata substantially misidentified the content of the scan.

Table 8: Six cases in which title and author metadata substantially misidentified the content of the associated scan.

Identifier	Title and author per IA's metadata	Title and Author, per content of the scan
catcherinrye0000sali_q3k8	*The Catcher in the Rye* by J.D. Salinger	SparkNotes guide to *The Catcher in the Rye*
chroniclesofnarn0000lewi	*The chronicles of Narnia* 7-volume compilation by C.S. Lewis	*The Voyage of the Dawn Treader* by C.S. Lewis
foulplay0000evan	*Foul Play* by Janet Evanovich	*Foul Play* by Steffie Hall
isbn_9780439799256	*The Lion, the Witch, and the Wardrobe* by C.S. Lewis and Pauline Baynes	*Measle and the Wrathmonk* by Ian Ogilvy
jdsalingerscatch00sali	*J.D. Salinger's The catcher in the Rye: A Contemporary Literary Views Book* by J.D. Salinger, "1919- Catcher in the Rye," and Harold Bloom	Bloom's Notes commentary on *The Catcher in the Rye*, edited by Harold Bloom
mysteriousbenedi00tren	*The Mysterious Benedict Society and the Perilous Journey*, by Trenton Lee Stewart and Diana Sudyka (illustrator)	*The Mysterious Benedict Society* by Trenton Lee Stewart

116

279. These misidentifications remain apparent on the details pages of these scans on the IA

Site. For each, IA tracks and delivers the scan purportedly as being Book A but the scan is

actually a copy of Book B.

280. In addition to the foregoing, IA's metadata has excess ISBNs in the ISBN field. As

described earlier, IA sometimes has multiple different ISBNs for a single digitized copy of a

print book.

281. For instance, identifier "psiloveyou00aherx" is for the book *P.S. I Love You* by Cecelia

Ahern. The scan is a copy of the paperback version, published in 2005, with the ISBN

0786890754. *See* AG0000025; INTARC00019086; and Amazon webpage below.[121] IA's

metadata for that scan lists multiple different ISBNs, including both 0786890754 (the paperback

published in 2005) and 9781401300906. The ISBN 9781401300906 is a hardcover copy,

published in 2004.[122]

282. The identifier "isbn_9780316101691" is for the book *Middle School: The Worst Years

of My Life* by James Patterson. See AG0000489. The scan is a copy of the hardcover version,

published in 2011, with the ISBN 9780316101875. See AG0000523; INTARC00071038; and

Hachette webpage below.[123] IA's metadata for that scan lists multiple different ISBNs, including

both 9780316101875 (the hardcover published in 2011) and 9780316101691 (a paperback copy,

published in 2012 and the ISBN reflected in the identifier title). See AG0000489.[124]

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[121] https://www.amazon.com/s?i=stripbooks&rh=p_66%3A0786890754&s=relevanceexprank&Adv-Srch-Books-Submit.x=25&Adv-Srch-Books-Submit.y=12&unfiltered=1&ref=sr_adv_b.
[122] https://www.hachettebookgroup.com/titles/cecelia-ahern/ps-i-love-you/9781401300906/
[123] https://www.hachettebookgroup.com/titles/james-patterson/middle-school-the-worst-years-of-my-life/9780316101875/.
[124] https://www.hachettebookgroup.com/titles/james-patterson/middle-school-the-worst-years-of-my-life/9780316101691/.

283. Where there are excess ISBNs in the ISBN field, this results in confusion as to which of the ISBNs actually corresponds to the scan. In such situations, IA will have an unclear understanding as to the contents of its digital holdings; *i.e.*, IA will identify its scan as corresponding with any or all of the multiple ISBNs listed in the ISBN field.[125]

284. There are additional examples of IA's difficulties with metadata, such as:

- Pls. Ex. 38, INTARC00294182 (discussed at Mills Tr. 244:19-248:11), which involves an internal discussion following OCLC reporting to IA that a scan was associated with the wrong book and that a matching MARC record was needed.

- Pls. Ex. 40, INTARC00292933 (discussed at Mills Tr. at 251:23-255:12), which involves an internal discussion recognizing that "we have a class of books which were once Public Domain / unrestricted and have since been moved into `inlibrary`."

- Pls. Ex. 41, INTARC00293378 (discussed at Mills 255:14-259:03), which involves an internal discussion describing IA overwriting the existing metadata with incorrect MARC data. The documentation further indicates that some of the incorrect metadata was originally sourced from the Library Genesis site.

IX.   Summary of Certain Opinions

285. As I mentioned at the beginning of my report, I was asked to conduct a technical analysis concerning IA's digitization of print books and use of the resulting digital books. Part of that assignment included analyzing five specific questions, which I recap below along with a

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[125] This is significant because, as discussed earlier, the process of increasing the concurrent lending limit for a scan depends on matching of ISBNs with the holdings of partner libraries.

summary of my answers to these questions.

Q1: Where does copying and distribution of books occur within IA's processes?

286. As I have described, IA makes a copy of print books when it scans those books to create a digital version of a physical book. The initial copy consists of JPEG images on IA's Scribe machines. A subsequent copy is made when uploaded to IA's servers. IA then makes over 10 different copies of that scan in various formats. Thereafter, IA distributes yet additional copies of the digitized book to users, either for display in their online browser (in IA's BookReader) or in the form of a download for offline reading. Copies are also made as users employ the listen feature of IA's BookReader, in order to have the book read to them. IA copies and disseminates the digital books in their entirety (or, in the case of BookReader access, in response to user navigation actions), so that registered users of IA's Site can read the complete book.

Q2: What is the history of IA copying and distributing the books listed in the Complaint?

287. I discuss this topic above. More detail is in Exhibits T1-T10. For each Work in Suit, IA has made one or more initial scanned copies; uploaded each of those copies to its servers; from those copies then made 10 or more different digital copies in various formats; and then provided the digital books to users. In almost all instances, IA provided the book for digitization and either IA or the Kahle/Austin Foundation sponsored the digitization. The loan information that IA provided depicts IA lending copies of each Work in Suit to users, with some WIS having been the subject of thousands of loans. The information that IA provided also shows many instances of IA providing multiple users at a time with access to copies of a single scan of a particular book (both before and during the period IA calls the "National Emergency Library"). The data that IA produced is for a limited snapshot in time (i.e., roughly March 2017 until early September 2020); as a result, for some scans, the data IA provided is not a full accounting of all

119

loans and additionally may not reflect the actual maximum number of users who had access to copies at a time.

Q3: How has IA copied and used books from Plaintiffs' respective in-print catalogs?

288. As I describe above, my analysis reflects that for each Plaintiff, the WIS are essentially the "tip of the iceberg." IA has digitized, and is distributing to users, substantial portions of each Plaintiffs' respective in-print catalogues. I found that, in addition to the WIS, IA has scanned and has in its inlibrary collection for borrowing more than 32,000 other books from Plaintiffs' in-print catalogues. Those are books for which Plaintiffs offer both a physical book and an eBook or audio book.

Q4: How has Internet Archive's distribution of digitized books evolved over time?

289. As I explained above, my analysis is that IA's scanning of physical books and online dissemination of the resulting digital books has expanded significantly, especially since 2018. The number of scans in the inlibrary collection has increased from (a) 648,117 scans on April 1, 2018; to (b) 965,499 scans on April 1, 2019; (c) 1,476,344 scans on May 26, 2020; and (d) 3,211,204 scans on February 19, 2022. The data further reflects heavy scanning of Plaintiffs' works in 2020 and 2021, as compared to prior years. In addition, I note that for many of these digital books IA provides multiple users with copies of the book at the same time. The impact of IA's willingness to make simultaneous loans of a single scan can be seen in my exhibits that lay out, for the WIS, the maximum eligible concurrent lending limit and the maximum actual concurrent loans made, both of which often have a value much greater than one. Indeed, as demonstrated by Exhibit T8, there are many Works in Suit for which IA's records show more than 30 eligible concurrent loans as a result of the Open Libraries overlap analysis; for the C.S.

Lewis book *The Lion, the Witch and the Wardrobe*, the records list 61 eligible concurrent loans that IA will lend out at any given time based on its one scan.

Q5: Are IA's methodologies for digitizing print books and then providing the digital copies for lending well-developed and reliable from a technological perspective?

290. IA digitizes books systematically and at enormous scale. However, I have observed problems that occur thereafter from a technological perspective. I discuss this topic in several section above. I list some of my analysis and opinions here as follows:

- IA does not have a rigorous system for ensuring the reliability of metadata. That, in turn, leads to errors in IA's understanding as to the contents of its digitized scans, how many loans it has made, and how many copies of a particular book are eligible (under IA's policies) for user access at a time.

- IA's methodologies are inconsistently applied. For instance, while IA has a policy regarding what can be put into the inlibrary collection, and has a script that applies that policy, IA sometimes fails to adhere to it (*e.g.*, 2 WIS published in 2019 were placed in the inlibrary collection as early as 2020).

- IA's approach to overlap analyses with partner libraries (a) treats all copies of a book as interchangeable items, without regard to differences in their respective physical condition; (b) inflates the likelihood of finding a match by using excess ISBNs that do not correlate with IA's copy; (c) does not verify that the library actually possesses what its records depict; and (d) does not stay in synch with events such as the library discarding, losing, or loaning its book, or a local patron reading it in the physical library.

- When IA chooses to do so, it provides many users at a time with copies of IA's scan of a particular book.

121

Dated: March 31, 2022

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Dr. Ian Foster

Appendix B: DR. IAN FOSTER CV

Ian T Foster

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Education

1988   Doctor of Philosophy, Computer Science, Imperial College, University of London, United Kingdom. Advisor: Prof. Keith Clark.
1979   Bachelor of Science, 1st class honors, Computer Science, University of Canterbury, New Zealand

Current Positions

2021-   INRIA International Chair, Grenoble, France
2018-   Director, Data Science and Learning Division, Argonne National Laboratory (ANL)
2014-   Fellow, Institute for Molecular Engineering, University of Chicago (UC)
2010-   Argonne Distinguished Fellow, ANL
2004-   Arthur Holly Compton Distinguished Service Professor, UC
1998-   Senior Scientist, ANL

Other Professional Experience

2007-16   Senior Fellow, Institute on Genomic and Systems Biology, ANL and UC
2006-16   Director, Computation Institute, ANL and UC
2000-09   Associate Director, Mathematics and Computer Science Division, ANL
2000-04   Professor, Department of Computer Science, UC
1998-2017 Senior Fellow, Computation Institute, ANL and UC
1992-98   Scientist, Mathematics and Computer Science Division, ANL
1996-99   Associate Professor, Department of Computer Science, UC
1991-92   Assistant Scientist, Mathematics and Computer Science Division, ANL
1989-90   Postdoctoral Fellow, Mathematics and Computer Science Division, ANL
1985-88   Research Associate, Department of Computing, Imperial College
1983-84   Technical Consultant, BRS Europe
1980-82   Professional sailor, Pacific, Caribbean, Atlantic

Honors

2020   DOE Office of Science Distinguished Scientists Fellow
2020   IEEE-CS Goode Award
2019   Best Paper, SC'19 Supercomputing Conference
2019   IEEE-CS Charles Babbage Award
2018   R&D 100 Award for Swift
2018   Best Paper, International Conference on Machine Learning for Networking
2018   Best Paper, TridentCom 2018
2017   Euro-Par Achievement Award
2016   Best Paper Award, 18th IEEE Intl Conf on High Performance Computing and Comms
2016   Best Paper Award, 12th International Conference on eScience
2016   Distinguished Carl Adam Petri Lecture
2014   IEEE TCSC Award for Excellence in Scalable Computing
2012   Inaugural ACM High Perf. Distributed Computing Lifetime Achievement Award

2012	Technologist of the Year, Illinois Technology Association
2011	R&D 100 Award for Globus Online
2011	IEEE Tsutomu Kanai Award
2011	Best Paper Award, IEEE International Conference on Services Computing
2009	DSc (Honoris Causi), Research and Advanced Studies Center of the National Polytechnic Institute of Mexico (CINVESTAV), Mexico
2009	Fellow, Association for Computing Machinery
2009	WORLDCOMP Outstanding Achievement Award
2008	Professor Jean-Claude Healy Distinguished Lecture
2007	Data Analysis Challenge Award, SC07
2006	GridWorld "Industry Leadership Award"
2005	Network World's 50 Most Powerful People in Networking
2005	D.Sc (Honoris Causi), University of Canterbury, New Zealand
2003, 04	Silicon.com Top 50 Agenda Setter
2003	Fellow, American Association for the Advancement of Science
2003	R&D Magazine Innovator of the Year
2003	Illinois Innovation Award
2003	InfoWorld Innovator
2003	MIT Technology Review, one of "Ten Technologies That Will Change the World"
2003	University of Chicago Distinguished Service Award
2002	Federal Laboratory Consortium Technology Transfer Award
2002	Lovelace Medal
2002	Fellow, British Computer Society
2002	R&D100 "Most Promising New Technology" Award
2002	R&D 100 Award for Globus Toolkit
2001	Gordon Bell Award
1997	Global Information Infrastructure "Next Generation" Award
1995	Best Paper Award, Supercomputing Conference
1989	British Computer Society Award for Technical Innovation

Personal Data

U.S citizen, New Zealand citizen.

Languages: English (native), French (rusty)

Research

Throughout his career, Foster has pioneered new approaches to the use of distributed computing for accelerating scientific discovery, both within supercomputers and over networks. He has repeatedly proposed out-of-the-box ideas that proved transformative for computer science and DOE: ideas such as large-scale task-parallel programming, on-demand distributed computations ("grid computing"), virtual organizations, universal data transfer and trust fabrics, and cloud management services for data-intensive science.

High-level task parallelism: Parallelism has long meant, primarily, data parallelism and low-level message passing. Recognizing that many interesting task-parallel computations were difficult to realize with such tools, Foster developed new programming methods that eased the specification of interacting tasks, enabled composition of existing programs, used deterministic constructs to avoid race conditions, and scaled to large distributed and parallel computer systems. Tools such as Strand, Virtual Data Language, Swift, and most recently, Parsl have been used to develop pioneering implementations of task-parallel program structures—in areas as diverse instrument data analysis pipelines, large model intercomparisons, and hyper-parameter optimization—that

today are mainstream. Foster is exploring related problems within the exascale Codesign center for Online Data Analysis and Reduction project.

Grid computing: Noting the opportunities offered by high-speed networks in the 1990s, Foster ith colleagues Carl Kesselman and Steven Tuecke launched an effort to create a unifying fabric of protocols, software, and policies for remote and coordinated use of computers, data, instruments, and software, regardless of location: what came to be known as *grid computing*. (The idea was that one could request computing when needed, much like plugging into an electrical socket: a radical concept at the time, but now routine thanks to commercial clouds.) The realization of this vision required new methods for resource description and discovery; authentication, authorization, and delegation of authority; reliable, efficient data movement; distributed computation management; distributed system monitoring; and replication and indexing of distributed data. That work led to numerous technical advances, innovative applications, and improvements in scientific infrastructure. For example, the climate community uses these methods to distribute climate data used in IPCC assessments, and the HEP community to aggregate hundreds of thousands of CPUs contributed by hundreds of LHC participants worldwide. Data transfer, security, and workflow management methods developed in this work underpin the data infrastructure used by many science projects worldwide.

Cloud services for data-intensive science: Foster realized that the emergence of commercial ("public") cloud services offered exciting opportunities to rethink research infrastructure, in particular by offloading responsibility for previously manual processes to cloud-hosted services. The resulting Globus service provides managed identity management, data transfer and replication, data sharing, data publication, and other services to the research community. As of early 2020, Globus is used at 13 national laboratories and more than 1,000 institutions, has 250,000 registered users, and has been used to transfer more than 100 billion files and 1 exabyte. Globus has become an essential data infrastructure element at national computing and experimental facilities and within many science projects.

Network dynamics: Foster's interest in how networks are used has led to pioneering studies of the structure and dynamics of peer-to-peer networks; data replication and discovery strategies in distributed systems; innovation networks in science; the behavior of network protocols in low-loss networks; and behaviors within modern science networks.

Scientific applications: Foster has also made important contributions via the development of computational methods and infrastructures in climate science, biomedical science, x-ray imaging, materials science, and other fields.

Collaboration and Communication

Foster has conceived of and led numerous successful intralab, multilab, US, and international projects, from early grid initiatives to recent collaborations in network modeling and exascale co-design. He has worked with hundreds of scientists and engineers at national laboratories to advance science and infrastructure: for example, with HEP scientists on the creation and application of the computing infrastructure for the LHC; with climate scientists on parallel climate models and, later, the Earth System Grid; with materials scientists on online analysis for light sources; and with computational scientists on innovative distributed computing applications and technologies.

Foster is a tireless communicator and proponent of computational methods for science in his speaking and writing. His eight books have all been influential. For example, his 1994 text, *Designing and Building Parallel Programs*, the first book published on the web, has introduced

many to parallel programming; his 1998 and 2003 books on grid computing, with Carl Kesselman, defined a research agenda for a large community; and his 2016 book on *Big Data and Social Science* communicated advanced data science methods developed within DOE and elsewhere to government statistical agencies.

Selected Professional Activities

Chair/Organizer: ParCo (2019), IEEE Cloud (2016, 2017), CCGrid (2014), eScience (2012), NSF Workshop on Building Effective Virtual Organizations (2008), NSF Workshop on Virtual Organization Research (2007), International Provenance and Annotation Workshop (2006),Workshop on Data Annotation and Provenance (2002), IEEE International Symposium On High-Performance Distributed Computing (1998, 2000, 2001), IEEE Symposium on the Frontiers of Massively Parallel Computation (1999), DARPA/DOE/NASA/DOE Computational Grids Workshop (1997), DARPA/NSF Workshop on Performance (1996), DOE DP/ER Workshop on Public Key Infrastructure (1996), Interagency Workshop on the Peta ops Software Model (1996), Interagency Summer School on Petaops Software (1996), DOE DP/ER Workshop on Future Security Research (1995), 4th PDEs on the Sphere Conference (1994), Workshop on Parallel Algorithms for Semi-Lagrangian Transport (1994), NSF Workshop on High Performance Computing and Communications and Health Care (1994), Workshop on Task Parallelism in Fortran (1994).

Member: Computing Community Consortium (2018-), SLAC Board of Overseers (2017-2020); New Zealand National eScience Infrastructure Study Group (2015-); BESAC Subcommittee on Challenges at the Frontiers of Matter and Energy (2015); National Data Service Consortium Executive Committee (2015-); Joint DOE ASCAC/BERAC Subcommittee on Computational and Informational Technology Rate Limiters to the Advancement of Climate Change Science (2007); DOE ASCAC Subcommittee on the Role of Networking and Networking Research within the Office of Science (2007-2008); Open Grid Forum Advisory Committee (2002-2007), NSF Linked Environments for Atmospheric Discovery (LEAD) project External Advisory Committee (2003-2007); Canadian HPC Advisory Committee (2002-2003), IBM Autonomic Computing Council (2002-2003), Editorial Board, IEEE Internet Computing (since 2002), IIT Computer Science Advisory Board (2002-2004), UK eScience Technical Advisory Group (2001-2004), EU DataGrid Architecture Board (2001-2004), NSF CISE Advisory Committee, Subcommittee on Middleware (2000-2001); Editorial Board, IEEE Trans. on Parallel and Distributed Systems (1997-2002); Middleware Working Group, Next Generation Internet Symposium (1997); Advisory committee, IBM International Conference On Parallel Computing; Information Architecture Committee, Supercomputing '95; Advisory Panel, International Conference on High Performance Computing (1995-2000); Technical Steering Committee, NSF Center for Research on Parallel Computation (1992-2001); CHAMMP Science Team (1992-2001); Editorial Board, IEEE Parallel and Distributed Technology (1992-2001).

Books

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Other Publications (Invited or Otherwise Unreviewed)

1. "The discovery cloud: Accelerating and democratizing research on a global scale," I Foster, K Chard, S Tuecke, **IEEE International Conference on Cloud Engineering**, pp. 68-77, 2016.

2. "Reasoning About Discovery Clouds", I Foster, **International Conference on Applications and Theory of Petri Nets**, 2016.

3. "Report on the International Provenance and Annotation Workshop (IPAW'06)," R Bose, I Foster, L Moreau, **SIGMOD Record**, September 2006, pp. 51-53.

4. "The Grid: Computing without Bounds," I Foster, **Scientific American**, April 2003, pp. 78-85.

5. "The Grid Grows Up," F Douglis, I Foster, IEEE Internet Computing, 7(4):24-26, 2003.

6. "Unexpected Consequences of Connections," Review of *Nexus* and *Linked*, **Science**, 08/16, 1124-1125, 2002.

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10. "Delphi: An Integrated, Language-Directed Performance Prediction, Measurement, and Analysis Environment," D Reed, D Padua, I Foster, D Gannon, B Miller. In **Frontiers '99**, 1999, pp. 156-159.

11. "The Globus Project: A Status Report," I Foster, C Kesselman, **Heterogeneous Computing Workshop**, 1998, pp. 4-18.

12. "Enabling Technologies for Web-Based Ubiquitous Supercomputing," I Foster, S Tuecke. **5th Symposium on High Performance Distributed Computing**, IEEE, 1996, pp. 112-120.

13. "An Overview of the Globus and I-WAY Projects," I Foster, **Conference of the Advanced School for Computing and Imaging**, Holland, 1996, pp. 17-20.

14. "High-Performance Distributed Computing: The I-WAY Experiment and Beyond," I Foster, **EUROPAR'96**, Lyon, France, 1996. Reprinted in **Australasian Conference on Parallel and Real-Time Systems**, 1996, pp. 1-10.

15. "Introduction to the Special Issue on Parallel Computing in Climate Modeling and Meteorology," J Drake, I Foster, **Parallel Computing**, 21(10):1539-1544, 1995.

16. "Language Constructs and Runtime Systems for Compositional Parallel Programming," I Foster, C Kesselman, **Lecture Notes in Computer Science,** vol. 854, Linz, Austria, Springer-Verlag, 1994, pp. 5-16.

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19. "Using Compositional Programming to Write Portable, High-Performance Parallel Programs," I Foster, C Kesselman, S Taylor. In **International Symposium on Logic Programming**, 1991, pp. 737-738.

Technical Reports (partial)

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21. "OGSA WSRF Basic Profile 1.0," I Foster, T Maguire, D Snelling, Open Grid Forum GFD.72, 2006.

22. "Modeling Stateful Resources with Web Services," I Foster, J Frey, S Graham, S Tuecke, K Czajkowski, D Ferguson, F Leymann, M Nally, I Sedukhin, D Snelling, T Storey, W Vambenepe, S Weerawarana, www.globus.org/wsrf, 2004.

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32. "An International Virtual-Data Grid Laboratory for Data Intensive Science," P Avery, I Foster, R Gardner, H Newman, A Szalay, GriPhyN-2001-2, 2001.

33. "Data Grid Reference Architecture," I Foster, C Kesselman, GriPhyN-2001-12, 2001.

34. "Representing Virtual Data: A Catalog Architecture for Location and Materialization Transparency," E Deelman, I Foster, C Kesselman, M Livny, GriPhyN-2001-14, 2001.

35. "The GriPhyN Project: Towards Petascale Virtual Data Grids," P Avery, I Foster, GriPhyN-2001-15, 2001.

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38. "Grid Forum: An Overview," C Catlett, I Foster, IEEE Distributed Computing Newsletter, 2000.

39. "Public Key Infrastructure for DOE Security Research," I Foster, W Johnston, LBL/TR, 1997.

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41. "Parallel Community Climate Model: Description and User's Guide," J Drake, R Flanery, I Foster, J Hack, J Michalakes, B Semeraro, D Williamson, P Worley, ORNL/TM-13271, 1996.

42. "Load-Balancing Algorithms for the Parallel Community Climate Model," I Foster, B Toonen, ANL/MCS-TM-190, 1995.

43. "Nexus User's Guide," I Foster, J Garnett, S Tuecke, ANL/MCS-TM-204, 1995.

44. "I-WAY Software Infrastructure User's Guide," I Foster, W Smith, Argonne, 1995.

45. "Programming in nPerl," I Foster, R Olson, Argonne, 1995.

46. "High Performance Fortran 2: Requirements Document," I Foster, R Schreiber (Eds), Rice University, 1995.

47. "The PORTS0 Interface," The PORTS Consortium, Argonne, 1994.

48. "Languages, Compilers, and Runtime Systems Support for Parallel Input-Output," A Choudhary, I Foster, G. Fox, K Kennedy, C Koelbel, J Saltz, M Snir, Caltech-CCSF-TR-94-40, California Institute of Technology, 1994.

49. "Workshop Report from the NSF Workshop on High-Performance Computing and Communications and Health Care," Co-author, Washington, D.C., 1994.

50. "Workshop Report from the Conference on Grand Challenge Applications and Software Technology," Co-author, Pittsburgh, 1993.

51. "Nexus: An Interoperability Layer for Parallel and Distributed Computer Systems," I Foster, C Kesselman, R Olson, S Tuecke, ANL-93/16, 1993.

52. "Fortran M Language Definition," I Foster, K.M Chandy, ANL-93/28, 1993.

53. "Programming in Fortran M," I Foster, R Olson, S Tuecke, ANL/93-26, 1993.

54. "Proceedings of a Workshop on the Earth's Climate as a Dynamical System," I Foster, H Kaper, M Kwong (Eds), ANL/MCS-TM-170, 1992.

55. "Proceedings of a Workshop on Data Systems for Parallel Climate Models," I Foster, M Henderson, R Stevens (Eds), ANL/MCS-TM-169, 1992.

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57. "Proceedings of a Workshop on Compilation of Symbolic Languages," I Foster, E Tick (Eds), ANL-91/34, 1991.

58. "Parallel Programming with PCN," I Foster, S Tuecke, ANL/91-32, 1991.

59. "A Portable Run-time System for PCN," I Foster, S Tuecke, S Taylor, ANL/MCS-TM-137, 1990.

60. "The Program Composition Project," K.M Chandy, I Foster, C Kesselman, S Taylor, Caltech-CS-TR-90-03, California Institute of Technology, 1990.

61. "Generating Alignments of Genetic Sequences," R Butler et al., ANL/MCS-TM-132, 1989.

62. "Strand: The Language and its Implementation," I Foster, S Taylor, PAR 88/11, Dept of Computing, Imperial College, 1988.

63. "Strand Language Reference Manual," I Foster, S Taylor, PAR 88/10, Dept of Computing, Imperial College, 1988.

64. "The X Machine: A Proposal for Construction," F McCabe, I Foster, Dept of Computing, Imperial College, 1988.

65. "Compiling Parlog for the Sequential Parlog Machine," I Foster, PAR 86/3, Dept of Computing, Imperial College, 1986.

66. "Parlog Programming System: User Guide and Reference Manual," I Foster, PAR 86/6, Dept of Computing, Imperial College, 1986.

Invited Talks (partial)

"AI for Science at Argonne," **2nd NOAA Workshop on Leveraging AI in Environmental Science**, September 17, 2020.

"Agents in an Exponential World," Keynote talk at **Agent 2007: Complex Interaction and Social Emergence**, Northwestern University, Norris Center, Evanston, November 15, 2007.

"Virtual Environments for Learning," Keynote talk at **MacArthur/NSF Workshop on Virtual Environments**, Boulder, Colorado, November 9, 2007.

"Working Smarter," Keynote talk at **iSociety Conference**, Merrillville, Indiana, October 9, 2007.

"Technology for Distributed Collaboration," Invited talk at **Symposium on Digital Fabrication**, University of Chicago, Chicago, Illinois, August 23, 2007.

"System Level Science and System Level Models," Invited talk at **Energy Modeling Forum**," Snowmass, Colorado, August 1, 2007.

"Swift: Fast, Reliable, Loosely Coupled Parallel Computation," Keynote talk at **IEEE New Zealand Workshop in High Performance and Grid Computing**, Auckland, New Zealand, July 5, 2007.

"Looking to the Future," Keynote talk at **Kiwi Advanced Research and Education Network (KAREN) Workshop**, Auckland, New Zealand, July 3, 2007.

"Enabling Distributed Petascale Science," Plenary talk at **Scientific Discovery through Advanced Computing Conference**, Boston, Massachusetts, June 28, 2007.

"Grid: Enabling Open Science," Keynote talk at **Nature Conference on Asia Pacific Networks Promoting Excellence in Research**, Tokyo, Japan, June 6, 2007.

"Scaling eScience Impact," Keynote talk at **1st Iberian Cyberinfrastructure Conference**, Santiago de Compostela, Galicia, Spain, May 15, 2007.

"Scaling eScience Impact," Keynote talk at **German eScience Conference**, Baden Baden, Germany, May 2, 2007.

"Why Computer Science is Fundamental to (Almost) Everything," Keynote talk at **New Zealand Computer Science Students Research Conference**, Hamilton, New Zealand April 11, 2007.

"A Tutorial Introduction to Grid," **4th IFIP Summer School**, Gordons Bay, South Africa, March 28, 2007.

"Grid Technology and Multidisciplinary Science," Invited talk at **Virtual Observatories Conference, International Astronomical Union**, Prague, Czech Republic, August 21, 2006.

"The GriPhyN Virtual Data System," **Conference on High Performance Computing and Grids**, Cetraro, Italy, July 4, 2006.

"Education in the Science 2.0 Era," Invited talk at Workshop on SC Education Program, Argonne, Illinois, July 27, 2006.

"The Global Storage Grid -- Or, Managing Data for Science 2.0," Keynote talk at **14th NASA Goddard - 23rd IEEE Conference on Mass Storage Systems and Technologies**, College Park, Maryland, May 16, 2006.

"Global Data Services: Developing Data-Intensive Applications Using Globus Software," Tutorial at **14th NASA Goddard - 23rd IEEE Conference on Mass Storage Systems and Technologies**, College Park, Maryland, May 15, 2006.

"Cyberinfrastructure and the Role of Grid Computing—Or, Science 2.0," Keynote talk at **Geoinformatics 2006**, Reston VA, May 12, 2006.

"Grid Dynamics," Keynote Talk, **Global Grid Forum 16**, Athens, Greece, February 14, 2006.

"Service Oriented Science: Scaling eScience Application & Impact," Keynote, 1st International Conference on e-Science and Grid Computing, Melbourne, Australia, December 13, 2005.

"Globus Toolkit Version 4," Tutorial, **1st International Conference on e-Science and Grid Computing**, Melbourne, Australia, December 12, 2005 [and many other places].

"Grid: Why, What, How," **Chicago Technology Forum**, Chicago, Illinois, October 28, 2005.

"Grid Services Overview and Introduction," Keynote Talk, **OOSTech**, Baltimore, Maryland, October 26, 2005.

"A New Era in Computing: Moving Enterprise Services onto Grid," **VIP Grid Summit**, Chicago, Illinois, July, 2005.

"Enabling eScience: Grid Technologies Today & Tomorrow," **American Association for the Advancement of Science Annual Meeting**, Washington, DC, February 21, 2005.

"Globus: Bridging the Gap," Keynote Talk, **GlobusWORLD**, Boston, Mass., February 8, 2005.

"Empowering Distributed Science," **DOE National Collaboratories Meeting**, NCAR, Boulder, Colorado, December 2, 2004.

"The Grid: Beyond the Hype," Keynote talk at **3rd International Conference on Grid & Cooperative Computing**, Wuhan, China, October 21, 2004.

"Enabling eScience: Open Software, Standards, Infrastructure," Keynote talk at **UK eScience All Hands Meeting**, Nottingham, September 2, 2004.

"Brain Meets Brawn: Why Grid and Agents Need Each Other," Keynote talk at **3rd International Conference on Autonomous Agents and Multi Agent Systems**, New York USA, July 22, 2004.

"The Grid: Essential Infrastructure for DOE Science," **SciDAC PI Meeting**, Charleston, North Carolina USA, March 22, 2004.

"Grid Physics Network & International Virtual Data Grid Lab," **NSF Scalable Cyberinfrastructure Division PI Meeting**, February 18, 2004.

"Introduction to the Grid," **COMDEX 2003**, Las Vegas, Nevada USA, November 18, 2003.

"Open Grid Services Architecture," Tutorial, **APAC'03**, Queensland, Australia, September 29, 2003.

"How the Linux and Grid Communities can Build the Next Generation Internet Platform," Invited talk at **Ottawa Linux Symposium**, Ottawa, Canada, July 24, 2003.

"Data and the Grid: From Databases to Global Knowledge Communities," Keynote talk at **15th International Conference on Scientific and Statistical Database Management** (SSDBM 2003), Cambridge, MA, USA, July 11, 2003.

"The Grid: The First 50 Years," **British Computer Society**, Lovelace Medal Award Presentation, London, May, 2003.

"Security and Certification Issues in Grid Computing," Keynote at **International Workshop on Certification and Security in E-Services** (CSES 2002), Montreal, Canada, August 28, 2002.

"Future Scientific Infrastructure," Keynote at **QUESTnet**, Gold Coast, Australia, July 4, 2002 (9 MB) [Powerpoint]

"Future Scientific Infrastructure," Keynote at **DAS-2 Conference**, Amsterdam, June 6, 2002.

"Virtual Data and the Chimera System," **HPC 2002 Conference**, Cetraro, Italy, June 25, 2002.

"The Grid and the Future of Business," Keynote at **Delphi Web Services Conference**, San Jose, CA., May 22, 2002.

"The Grid: Enabling Resource Sharing within Virtual Organizations," Keynote at **World Wide Web Conference 2002**, Honolulu, Hawaii, May 9, 2002.

"Grid Computing: Concepts, Applications, and Technologies," Tutorial at **Grid Computing in Canada Workshop**, Edmonton, Canada, May 1, 2002.

"Data Grids and Data Intensive Science," Keynote at **Research Library Group Annual Conference**, Amsterdam, Netherlands, April 22, 2002.

"Grid Computing and Web Services: A Natural Partnership," **Euromicro Workshop on Parallel, Distributed, and Network Computing**, Gran Canaria, January 2002. (Keynote.)

"The Anatomy of the Grid: Enabling Scalable Virtual Organizations," **AURORA International Workshop on Grid Computing**, Vienna, Austria, December 2001. (Keynote.)

"Securing the Grid and other Middleware Challenges," **NSF Workshop on Grand Challenges in eScience**, Chicago, Ill., December 2001.

"Realizing the Promise of Grid Computing," **NSF Advisory Committee on Cyberinfrastructure**, Washington, DC (via Access Grid), November 2001.

"SC Global: Celebrating Global Science," **SC'2001 Masterworks Presentation**, Denver, Col., November 2001.

"Grid Computing," **Sun HPC Consortium Conference**, Denver, Col., November 2001. (Keynote.)

"Grid Computing," **IBM Advanced eBusiness Conference**, Austin, Texas, October 2001.

"Keeping Grid Projects Coherent," **EU DataGrid Industry Forum**, Frascati, Italy, October 2001.

"Grid Computing: Architecture and Achievements," **CHEP'2001**, Beijing, China, September 2001. (Plenary.)

"The Anatomy of the Grid: Enabling Scalable Virtual Organizations," **Euro-Par 2001**, Brisbane, Australia, August 2001. (Keynote.)

"Globus Project Current Status," **Globus Retreat**, San Francisco, August 2001

"Grids and Grid Technologies," **OMG Workshop on the Grid**, Boston, July 2001.

"The Earth System Grid Project," **Global Grid Forum 2**, Washington, DC, July 2001.

"U.S Grid Projects," **Upperside Conference on Industrial Grids**, Paris, June 2001. (Keynote.)

"Parallel Computing in 2001," **PPoPP 2001**, Snowbird, June 2001. (Keynote.)

"The Anatomy of the Grid: Enabling Scalable Virtual Organizations," **IEEE Conference On Cluster Computing and the Grid** (CCGrid), Brisbane, Australia, May 2001. (Keynote.)

"The GriPhyN Project," **Alliance All-Hands Meeting**, Urbana, May 2001.

"Grids: Past, Current, Future Activities," **European Union Grid Summit**, Brussels, March 2001.

"Middleware," **Access Grid Retreat**, Argonne, January 2001.

"Middleware and Grids," **NSF Middleware Panel**, December 2000.

"The Grid Forum," **Intel Peer-to-Peer Conference**, San Jose, October 2000.

"Grid Computing," **ACAT Conference**, FermiLab, October 2000. (Plenary.)

"Grid Architecture," **Grid Forum 5**, Boston, October 2000. (Keynote.)

"MPICH-G2: A Grid-Enabled MPI," **NASA Information Power Grid Workshop**, San Jose, September 2000.

"Designing and Building Parallel Climate Models," **Computational Science and Engineering Symposium**, Urbana, April 1997. (Keynote.)

"Autoconfiguration in Heterogeneous Clusters," **Cluster Computing Conference**, Altanta, February 1997. (Keynote.)

"High-Performance Distributed Computing: The I-WAY Experiment and Beyond," **PART '96**, Brisbane, Australia, August 1996. (Keynote.)

"High-Performance Distributed Computing: The I-WAY Experiment and Beyond," **EUROPAR '96**, Lyon, France, August 1996. (Keynote.)

"Ubiquitous Supercomputing," **ASCI '96**, Holland, June 1996. (Keynote.)

"The I-WAY and Globus Projects," **International Conference on Supercomputing**, Philadelphia, May 1996.

"Multithreading and High-Performance Computing," **European School on High Performance Computing**, Alpes d'Huez, France, April 1996.

"Parallel Algorithms for Climate Models," **Annual Meeting of the French SIAM**, Grenoble, France, March 1996.

"Task and Data Parallelism," **Spring School on Data Parallelism**, Les Menuires, France, March 1996.

"Runtime Support for Parallel Object-Oriented Languages," **Workshop on Parallel Object-Oriented Programming,** Southampton, England, March 1996.

Seminars (partial)

"Swift: Fast, Reliable, Loosely Coupled Parallel Computation," Lecture at Leibniz-Rechenzentrum München, Munich, Germany, April 30, 2007.

"Why Computer Science is Fundamental to (Almost) Everything," Arthur Schoffstall Lecture, Rensselaer Polytechnic Institute, Troy, NY, April 19, 2007.

"Service Oriented Science: Scaling eScience Application & Impact," Distinguished Lecture, Purdue University, February 6, 2006

"Service Oriented Science: Scaling eScience Application & Impact," Distinguished Lecture, Northeastern University, Boston, January 26, 2006.

"The Grid: Reality, Technologies, Applications," Distinguished Lecture, McGill University, Montreal, Canada, January 21, 2005.

"The Grid and its Implications for Science (and Industry)," Royal Society of New Zealand, Wellington, New Zealand, March 18, 2004.

"The Grid: Opportunities, Achievements, and Challenges for (Computer) Science," University of Canterbury, Christchurch, New Zealand, March 17, 2004.

"An Open Grid Services Architecture," Indiana University, January 2002.

"The Anatomy of the Grid: Enabling Scalable Virtual Organizations," University of Edinburgh, December 2001.

"The Anatomy of the Grid: Enabling Scalable Virtual Organizations," U. Florida, Gainesville, FL, November 2001. (Distinguished HPC Seminar.)

"Grid Computing and Applications," FermiLab, Batavia, IL, October 2001.

"Grid Technologies and Applications: Architecture and Achievements," CERN, Geneva, August 2001.

"Grid Computing," CERN, Geneva, January 2001.

"The Globus Toolkit," IBM Yorktown, December 2000.

"The GARA Quality of Service Architecture," Cisco, San Jose, April 2000.

"High-Performance Computational Grids," University of Tennessee, October, 1997; University of California at Berkeley, October 1997.

"Network-Based Approaches to Supercomputing," Lawrence Berkeley National Laboratory, July 1996; University of California at San Diego, December 1996; California Institute of Technology, April 1997.

"High-Performance Distributed Computing: The I-WAY Experiment and Beyond," University of Nebraska, March 1996.

"Ubiquitous Supercomputing," University of Chicago, April 1996.

"High-Performance Distributed Computing: The I-WAY Experiment and Beyond," Politechnico di Milano, January 1996.

"Software Infrastructure for High-Performance Distributed Computing," University of Illinois, November 1994.

"A Massively Parallel Atmospheric Model Testbed," Microelectronics Center of North Carolina, April 1994.

"Modular Parallel Programming," University of California at Los Angeles; NASA Langeley Research Center; UT Austin; 1993.

"Fortran M: A Language for Modular Parallel Programming," Intel Corporation, Portland, Ore., July 1993.

"Deterministic Parallel Programming Languages," Harvard University; Thinking Machines Corporation; Jan. 1993.

"Information Hiding in Parallel Programs," California Institute of Technology; UC Santa Barbara; U. Illinois at Urbana-Champaign; Imperial College; 1992.

"Software Engineering Issues in Parallel Climate Models," ICIAM '91, Washington, D.C., 1991.

"Parallel Algorithms for Computing the Spectral Transform," California Institute of Technology, 1991.

Appendix C: NOTES ON METHDOOLOGY FOR PREPARING TABULATION TABLE

Extracting information about scans from JSON files

1. I extracted the following information from each JSON file for the associated scan. [For each item below, in brackets, I provide for illustrative purposes the value from the file INTARC00136499.json for scan identifier "psiloveyou00cece".]

- **JSON Bates**: A unique identification number for the JSON file as IA produced it in this matter, recorded in the name of the file. [INTARC00136499]

- **Scan Identifier**: The contents of the "identifier" field in the JSON file's metadata record. [psiloveyou00cece]

- **Scan Title**: The contents of the "title" field in the JSON file's metadata record. [PS, I love you]

- **Scan Author**: The contents of the "creator" field in the JSON file's metadata record. [Ahern, Cecelia, 1981-]

- **Scan Date**: The contents of the "scandate" field in the JSON file's metadata record. [20120601072204]

- **Box ID**: The contents of the "boxid" field in the JSON file's metadata record. [IA180301]

- **Box ID 2**: The contents of the "boxid_2" field in the JSON file's metadata record. [CH104901]

- **Publication Date**: The contents of the "date" field in the JSON file's metadata record. [2004]

- **Public Date**: The contents of the "publicdate" field in the JSON file's metadata record. [2012-03-30 21:00:16]

- **Publisher**: The contents of the "publisher" field in the JSON file's metadata record. [New York : Hyperion]

- **Language**: The contents of the "language" field in the JSON file's metadata record. [eng]

- **Sponsor**: The contents of the "sponsor" field in the JSON file's metadata record. [Internet Archive]

- **Contributor**: The contents of the "contributor" field in the JSON file's metadata record. [Internet Archive]

- **Added Date**: The contents of the "addeddate" field in the JSON file's metadata record. [2012-03-30 21:00:12]

- **Update Date**: The contents of the "updatedate" field in the JSON file's metadata record. [2012-03-30 21:00:08]

- **Dedup ISBNs (10/13)**: The number of unique ISBNs associated with this scan, as determined by the method described below in the section "Deduplication of ISBNs". [2] (The number is 2 because the four ISBNs listed in next field comprise two ISBN-10s and two corresponding ISBN-13s.)

- **ISBN(s)**: Any ISBNs listed in the "isbn" field in the JSON file's metadata record. [1401300901, 9781401300906, 0786890754, 9780786890750]

- **Image Count**: The contents of the "imagecount" field in the JSON file's metadata record. [518]

- **OL Edition**: The contents of the "openlibrary_edition" field in the JSON file's metadata record. [OL3689266M]

- **OL Work**: The contents of the "openlibrary_work" field in the JSON file's metadata record. [OL5727029W]

- **Partner**: The contents of the "partner" field in the JSON file's metadata record. The file INTARC00136499.json does not contain this field.

- **Republisher Date**: The contents of the "republisher_date" field in the JSON file's metadata record. [20120602180753]

- **Republisher Operator**: The contents of the "republisher_operator" field in the JSON file's metadata record. [scanner-shenzhen-thomas@archive.org]

- **Scanner**: The contents of the "scanner" field in the JSON file's metadata record. [scribe19.shenzhen.archive.org]

- **Scanning Center**: The contents of the "scanningcenter" field in the JSON file's metadata record. [shenzhen]

- **Uploader**: The contents of the "uploader" field in the JSON file's metadata record. [associate-lotu-tii@archive.org]

- **num_loans**: The contents of the "loans__status__num_loans" field in the JSON file's metadata record. The file INTARC00136499.json does not contain this field.

- **num_history**: The contents of the "loans__status__num_history" field in the JSON file's metadata record. The file INTARC00136499.json does not contain this field.

- **loan Item count**: The number of items in the "loan" field in the JSON file's loans record. [3]

- **loan_history Item count**: The number of items in the "loan_history" field in the JSON file's loans record. [16]

- **Holdings**: The library names listed in the "holdings" field of the "simplelists" record in the JSON file. [spokanepubliclibrary-ol: 1, mitlibraries-ol: 1, worthingtonlibraries-ol: 1, openlibrary-ol: 80, nationalemergencylibrary: 10000, yaleuniversitylibrary-ol: 1]

- **Holdings increment**: The number of library names in the "holdings" field of the "simplelists" record in the JSON file, excluding "holdings-test", "openlibrary-ol", and "nationalemergencylibrary". [4]

Deduplication of ISBNs

An International Standard Book Number (ISBN) is an identifier assigned to a published book, with a separate ISBN assigned to each edition and variation, except for reprintings. Thus, hardcover, paperback, and electronic editions of a book will have different ISBNs.

The "isbn" field in the JSON file, for many scans, lists multiple ISBNs. For example, INTARC00136495.json for scan identifier "psiloveyou0000aher" lists six ISBNs: 0007179499, 9780007179497, 0007169582, 9780007169580, 9780007861668, and 0007861664.

One might assume that each of these different ISBNs corresponds to a different published edition, but that need not be the case, due to the existence of two ISBN standards, ISBN-10 and ISBN-13. The ISBN-10 standard, which defines 10-digit identifiers, is no longer issued to new publications; it was superseded by ISBN-13, which defines 13-digit identifiers, on 1st January, 2007. Any ISBN-10 identifier can be mapped to a corresponding ISBN-13 identifier via a simple textual transformation, as follows:[1]

- take the 10-digit ISBN (10 digits)

---

[1] https://isbn-information.com/convert-isbn-10-to-isbn-13.html.

- drop the last character (9 digits)

- prepend "978" to the front (12 digits)

- calculate a "check digit" via simple arithmetic on the preceding digits, and append it to the end (13 digits)

Applying this transformation to the ISBN-10 0007179499 from the example above yields the ISBN-13 9780007179497, which we see is also listed as an ISBN for that scan. The remaining four ISBNs listed form two other ISBN-10/ISBN-13 pairs, so in total the JSON file associates ISBNs for three unique published editions with this scan.

Extracting information about scans from CSV files

The 379 CSV files, one per scan, contain a total of 133,311 lines, i.e., an average of 352 per scan. Each line uses seven fields, as shown in Table 1, to describe an operation, represented by the command ("cmd") plus associated arguments ("arg") performed on the scan. Of the 133311 lines, 124,580 (93%) are "modify_xml.php". It is these that I analyzed to obtain information on two questions: When was a scan added to the IA inlibrary collection, and what information was available on loans made for the scan.

Table 1: Fields provided in CSV files, plus example text from INTARC00136118.csv.

Field	Example
identifier	accused0000gris
task_id	1728917853
server	ia601507.us.archive.org

submittime	2020-05-30 07:41:59.026494
cmd	archive.php
submitter	station18.cebu@archive.org
args	"{'done': 'bup-derive', 'from_url': 'rsync://he.www49.s3dns/s32/s3-472c0917-ea20-418c-89da-0d8039bfd564-accused0000gris/', 'nolo': '1', 'comment': 's3-put', 'delete_from_source': '2', 'dir': '/28/items/accused0000gris'}"

To determine when a scan had been added to the IA inlibrary collection, I looked for

"modify_xml.php" commands that indicated a "patch" to a scan's "metadata" with "op" of "add"

and a value of "inlibrary." For example, line 418 in INTARC00152100.csv describes a

"modify_xml.php" command submitted on 2020-01-13 for the scan identifier

"whenbreathbecome0000kala":

> whenbreathbecome0000kala,1466778519,ia903105.us.archive.org,2020-01-13
>
> 20:03:39.883574,modify_xml.php,jake@archive.org,"{'-target': 'metadata', 'dir':
>
> '/17/items/whenbreathbecome0000kala', '-patch': '[{""path"": ""/noindex"", ""op"":
>
> ""remove""}, {""path"": ""/collection/0"", ""value"": ""inlibrary"", ""op"": ""add""}]'}"

The last element of this line comprises the arguments to the command, in JSON format. I show

the arguments in a more readable form in Figure 1. This text encodes the "add scan with

identifier whenbreathbecome0000kala to inlibrary collection" command.

```
    { '-target': 'metadata',
      'dir'    : '/17/items/whenbreathbecome0000kala',
      '-patch' : [
                  { "path": "/noindex", "p": "remove"},
                  { "path": "/collection/0",
                    "value": "inlibrary",
                    "op": "add"
                  }
              ]
    }
```

Figure 1: The JSON document provided as an argument in line 418 of INTARC00152100.csv

To determine changes in a scan's loan status, I looked for "modify_xml.php" commands that

indicated a "patch" to a scan's "metadata" with "op" of "add" and a value of "status." As an

example, line 218 in the same CSV file INTARC00152100.csv describes another

"modify_xml.php" command submitted for scan identifier "whenbreathbecome0000kala," in this

case on 2020-03-29. I show the arguments to this command in Figure 2. Lines 31 and 33 indicate

that the number of outstanding loans for the scan is to be set to 82, and the cumulative number of

loans is to be set to 100, respectively.

```
1    { "-changes":
2        [ {"target" : "metadata",
3            "patch":
4              [ { "op" : "add",
5                  "path" : "/loans__status__status",
6                  "value" : "AVAILABLE"
7                },
8                { "op" : "add",
9                  "path" : "/loans__status__num_loans",
10                 "value" : "82"
11               },
12               { "op" : "add",
13                 "path" : "/loans__status__num_waitlist",
14                 "value" : "0"
15               },
16               { "op" : "add",
17                 "path" : "/loans__status__num_history",
18                 "value" : "100"
19               },
20               { "op" : "add",
21                 "path" : "/loans__status__last_loan_date",
22                 "value" : "2020-03-29T03:11:57Z"
23               }
24             ]
25          },
26          { "target" : "loans",
27            "patch":
28              [ { "op" : "add",
29                  "path" : "/status",
30                  "value" : {"status" : "AVAILABLE",
31                             "num_loans" : 82,
32                             "num_waitlist" : 0,
33                             "num_history" : 100,
34                             "last_loan_date" : "2020-03-29T03:11:57Z",
35                             "last_waitlist_date" : "2020-03-15T04:50:24Z"
36                            }
37                }
38              ]
39          }
40        ],
41        "dir" : "/17/items/whenbreathbecome0000kala"
42    }
```

Figure 2: Contents of the JSON data from line 218 in the CSV file INTARC00152100.csv, presented in a format to facilitate understanding.

I recorded the "num_loans" and "num_history" values thus found in each CSV file, along with the associated date.

Based on this information, I then assembled the following values for each scan:

- **CSV Bates**: A unique identification number for the CSV file as IA produced it in this matter, recorded in the name of the file.

- **Overall MACL**: The maximum actual concurrent loans for the scan, as indicated by the maximum value of the "num_loans" field just described across the entire date range

covered by the CSV file; thus, this is the "overall" MACL, as distinct from the MACL

values within certain defined date ranges described below.

- **Total Loans**: The total number of loans for the scan, as indicated by the maximum value

  (seen in the CSV file) of the "num_history" field just described

- **inlibrary Date**: The date that the scan was added to the inlibrary collection, as indicated

  by the "modify_xml.php" command described above. In some cases, the addition to

  inlibrary is not apparent in the produced CSV file.

- **inlibrary Reference**: A "True" or "False" value indicating whether or not the CSV file

  contains any reference to the inlibrary collection.

- **MACL before 2019**: The maximum actual concurrent loans prior to 2019-01-01.

- **MACL 2019**: The maximum actual concurrent loans between 2019-01-01 and 2019-12-

  31, inclusive.

- **MACL 2020 pre-NEL**: The maximum actual concurrent loans between 2020-01-01 and

  2020-03-16, inclusive.

- **MACL 2020 NEL**: The maximum actual concurrent loans between 2020-03-17 and

  2020-06-16, inclusive.

- **MACL 2020 post-NEL**: The maximum actual concurrent loans between 2020-06-17 and

  the last date in the data provided by IA, inclusive.

- **Loans before 2019**: The total number of loans prior to 2019-01-01.

- **Loans 2019**: The total number of loans between 2019-01-01 and 2019-12-31, inclusive.

- **Loans 2020 pre-NEL**: The total number of loans between 2020-01-01 and 2020-03-16,

  inclusive.

- **Loans 2020 NEL**: The total number of loans between 2020-03-17 and 2020-06-16, inclusive

- **Loans 2020 post-NEL**: The total number of loans between 2020-06-17 and the last date in the data provided by IA, inclusive.

Appendix D: NOTES ON METHODOLOGY FOR COMPARING PLAINTIFFS' CATALOGS WITH IA'S INLIBRARY COLLECTION

The precise information in the publishers' catalog files (HACHETTE0002576, HC0003508, PRH0068115, and WILEY0011680) varies across publishers, but in general each provides, for each edition of each work, information such as author, title, publication year (apart from Harper), ISBN, and format (e.g., hardcover, paperback, ebook, audiobook, among others).

In Table 2 below, I present various statistics based on these catalog files and based on the results of looking up their contents in IA's inlibrary collection. The number of entries in each publisher catalog is given in Column 2. I also counted the number of entries that were physical books (hardcover or paperback) or electronic books, based on the publisher-specific descriptors listed in Table 3, generating the numbers in Columns 3 and 4 of Table 2.

I defined a "work" as a unique author-title pair within a catalog. A catalog may have multiple entries for a single work due to the publication of the work in different formats, each with its own ISBN.

I identified works in each catalog for which the catalog reflects both a physical edition (hardcover or paperback) and an electronic edition. I refer to such works as "qualifying" works, and it is this set that I searched for in IA's inlibrary collection.

In performing this analysis, I had to take into account that in the Harper catalog, many ebook titles have short strings appended: for example, the book *Trial By Fury* by J. A. Jance appears under that title as a Mass Market Paperback, but the corresponding electronic editions have titles "Trial By Fury EPB," "Trial By Fury AER," "Trial By Fury MSR," "Trial By Fury PLM," "Trial By Fury RB/SB," and "Trial by Fury SNY." To handle this, I identified and removed the most common such codes from the ends of the Harper title data.

14

I have also had to take into account that a title in a particular publisher's catalog may be recorded slightly differently for some formats, varying in usage of accented characters, punctuation, extra space characters, and capitalization. Before matching titles within a catalog, I "normalized" the titles to the same standard, dropping accents, punctuation, and extra spaces, and converting them to all-lowercase characters.

The number of unique author-title combinations with both physical and electronic editions identified in each publisher catalog (that is, the number of qualifying works) is given in Column 5 of Table 2.

Based on the preceding, I generated a list of ISBNs for each physical or electronic edition corresponding to the qualifying works. In the case of Wiley, these ISBNs include both ISBN-10s and ISBN-13s, as both forms occur in its catalog. The number of ISBNs thus identified for each publisher is given in Column 6 of Table 2.

I queried the Internet Archive to determine whether each of the physical and electronic ISBNs for the qualifying works is present in the Internet Archive's inlibrary collection. As described in the main text of the report, I used for this purpose the Internet Archive's publicly available "ia" program, which I can run as follows, in this case to query about the ISBN "9780060000189":

```
ia search -i 'isbn:9780060000189' 'collection:inlibrary'
```

If this work exists in the inlibrary collection, then IA's site returns the identifier for that scan in response, which in this case is "hurricanenovel0000true." If the work is not in the "inlibrary" collection, IA returns an empty response. I list in Column 7 of Table 2 the number of

15

these queries that identified a match for each publisher; in Column 8, I give the number of unique author-title pairs represented by these matches; and in Column 9, I use the data in Columns 5 and 8 to compute the percentage of publisher author-title pairs with both physical and electronic editions pairs (that is, the percentage of qualifying works) that are to be found in IA's inlibrary collection.

Table 2: Number of entries of different types in the four publisher catalogs. [Note: In the case of Wiley, the number of ISBNs (204284) is larger for than the number of books in their catalog (157110) because their catalog lists both ISBN10s and ISBN13s. We consider both.]

1	2	3	4	5	6	7	8	9
Publisher	All catalog entries	Catalog entries for physical books	Catalog entries for electronic books	Author-title pairs with both physical and electronic	Number of ISBNs for author-title pairs of column 5	ISBNs found in IA inlibrary collection	Author-title pairs with found ISBNs	Column 8 as % of column 5
Hachette	67517	20627	31130	13057	39410	5287	4519	34.6
Harper	112221	44068	51879	19205	70484	8240	7055	36.7
Penguin	190471	74193	77387	46059	105356	18051	16496	35.8
Wiley	157110	49461	82043	31870	204284	10700	4933	15.5

Table 3: Descriptors used to identify hardcover, softcover, and electronic works in each publisher catalog.

Publisher	Hardcover	Softcover	Electronic
Hachette	Hardcover Book	Trade Paperback, Mass Market	Electronic Book
Harper	Hardcover	Paperback, Trade Paperback, Mass Market Paperback	E-Book
Penguin	Hardcover	Trade Paperback, Mass Market/Rack	Electronic
Wiley	Cloth	Paperback	E-books

In summary, the columns in Table 2 are as follows:

16

1. Publisher name.

2. The total number of entries in the catalog.

3. The number of entries in the catalog that are for physical (i.e., hardcover or paperback) editions, with these defined as in Table 3.

4. The number of entries in the catalog that are for ebooks, also as defined in Table 2.

5. The number of unique author-title pairs for which there is both (one or more) matching electronic and physical edition in the catalog

6. The number of ISBNs in the catalog that are associated with either a physical edition or electronic edition with author and title as in Column 5.

7. The number of the ISBNs from Column 6 that are found in the IA inlibrary collection.

8. The number of unique author-title pairs represented by the ISBNs of Column 7.

9. The number of unique author-title pairs for this publisher found in the IA inlibrary collection (Column 8) as a percentage of all unique author-title pairs in this publisher's catalog with both a physical and electronic editions (Column 5).

To illustrate how this works in practice, consider a simple "Example" catalog with just the entries in Table 4. Analysis of this catalog produces the values shown in Table 5.

Table 4: Example catalog used to illustrate the meaning of different counts.

ISBN	Title	Author	Type
A	Book1	Bloggs	Hardcover
B	Book1	Bloggs	Paperback
C	Book1	Bloggs	Electronic
D	Book1	Bloggs	Electronic
E	Book1	Bloggs	Audiobook
F	Book2	Bloggs	Hardcover

17

Table 5: Counts of works obtained for the simple example catalog of Table 4.

Publisher	All catalog entries	Catalog entries for physical book	Catalog entries for ebook	Author-title pairs with both physical and ebook	Number of ISBNs for author-title pairs of column 4
Example	6	3	2	1	4
	ISBNs A, B, C, D, E, F	ISBNs A, B, F	ISBNs C, D	Bloggs Book1	ISBNs A, B, C, D

18

Appendix E: GLOSSARY

Source: https://archive.org/services/docs/api/metadata-schema/index.html

access-restricted:
- **internal use only**: Yes
- **usage notes**: This tag is only used on items of mediatype collection (it will have no affect on items of any other type). This tag should only be assigned by internal IA admins.
- **definition**: Collection contents are restricted access
- **required**: No
- **label**: Access Restricted
- **repeatable**: No
- **accepted values**: true
- **edit access**: IA admin
- **defined by**: IA admin

access-restricted-item:
- **definition**: Identifies item that is access-restricted
- **usage notes**: Only used on items, not collections. Automatically added to items in an access-restricted collection at the end of any task.
- **internal use only**: Yes
- **required**: No
- **label**: Access Restricted Item
- **repeatable**: No
- **accepted values**: true
- **edit access**: IA admin
- **defined by**: IA admin

addeddate:
- **internal use only**: No
- **usage notes**: Beginning in December 2019 when item was first added to public search engine. It is added during the first task where the item does not have noindex present in meta.xml. The field is not changed or removed if the item is subsequently removed from public search. Prior to December 2019, Addeddate was automatically set when the item directory is been created in our file system. In many cases, the addeddate will be very similar to the publicdate. However, in some cases we create an item directory with metadata but no media files prior to the media being scanned. The addeddate reflects when the item was created, regardless of when the media was added to the item. When the media is added at a later date and a derive.php task is run, the publicdate will be added to the item.
- **definition**: 2019-12 and later dates: represents time item was added to public search engine. Earlier dates: Date and time in UTC that the item was created archive.org
- **required**: Yes
- **label**: Date Added to Public Search
- **repeatable**: No
- **accepted values**: YYYY-MM-DD HH:MM:SS,YYYY-MM-DD

19

- **edit access**: not editable
- **defined by**: IA software

boxid:
- **definition**: Location of physical item in the Physical Archive
- **usage notes**: Boxids always start with the letters IA followed by numbers. The numbers represent the container, pallet and box that the physical item is stored in. When there are multiple boxid fields in meta.xml, the first boxid listed represents the physical item that was digitized. Subsequent boxid fields represent the location of duplicate physical items.
- **internal use only**: Yes
- **required**: No
- **label**: Box ID
- **repeatable**: Yes
- **accepted values**: IA######
- **edit access**: IA admin
- **defined by**: IA admin

collection:
- **internal use only**: No
- **usage notes**: Required for all items except "fav-username" collections. Always list the item's primary collection first in meta.xml; this is the collection the item "belongs" to. The primary collection often represents the entity that contributed or created the content. Uploaders can only choose from collections that they have privileges for. General uploaders with no special privs can only upload to selected "Community" collections or the test_collection. Items in the test_collection are removed from the site after 30 days.
- **definition**: Indicates to the website what collection(s) this item belongs to.
- **required**: No
- **label**: Collections
- **repeatable**: Yes
- **accepted values**: Must be a valid identifier
- **edit access**: user admin
- **defined by**: user admin

contributor:
- **definition**: The person or organization that provided the physical or digital media.
- **usage notes**: For physical items that have been digitized, contributor represents the library or other organization that owns the physical item. For born-digital media, contributor often represents the organization responsible for the distribution of the content (e.g. a radio station or television station).
- **internal use only**: No
- **required**: No
- **label**: Contributor
- **repeatable**: No
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

20

external-identifer:
- **definition**: URLs or identifiers to outside resources that represent the media
- **usage notes**: External-identifier includes Uniform Resource Names (URNs) for external resources about the media in the item. The field is usually in the form of urn:namespace:identifier.
- **internal use only**: No
- **required**: No
- **label**: External Identifier
- **repeatable**: Yes
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

identifier:
- **internal use only**: No
- **usage notes**: We encourage the use of human-readable identifiers, rather than opaque strings of numbers or letters. For most projects we try to keep identifiers below 80 characters in length for the sake of readability.
- **definition**: Unique identifier for an item on the archive.org web site. Used in the URL for the item, ie archive.org/details/[identifier].
- **required**: Yes
- **label**: Item Identifier
- **repeatable**: No
- **accepted values**: String, minimum length is 5 characters, maximum length is 100 characters, contains only Roman alphabet characters, numbers, periods (.), underscores (_), or dashes (-), and first character must be alphanumeric.,mediatype:account items begin with @ symbol.
- **edit access**: IA admin
- **defined by**: uploader

openlibrary_edition:
- **internal use only**: No
- **usage notes**: Correlates to the edition page on openlibrary.org. The OL edition page URL is https://openlibrary.org/books/[openlibrary_edition]
- **definition**: Open Library edition identifier
- **required**: No
- **label**: Open Library edition identifier
- **repeatable**: No
- **accepted values**: OL#M
- **edit access**: uploader
- **defined by**: uploader

openlibrary_work:

- **internal use only**: No
- **usage notes**: Correlates to the work page on openlibrary.org. The OL work page URL is https://openlibrary.org/works/[openlibrary_edition]
- **definition**: Open Library work identifier
- **required**: No
- **label**: Open Library work identifier
- **repeatable**: No
- **accepted values**: OL#W
- **edit access**: uploader
- **defined by**: uploader

operator:
- **internal use only**: Yes
- **usage notes**: usually email address. In texts this represents the person who operated the Scribe or other scanning equipment. In web items this represents the engineer responsible for the crawl.
- **definition**: Email of the person who scanned/captured the media in the item
- **required**: No
- **label**: Operator
- **repeatable**: No
- **accepted values**: String
- **edit access**: IA admin
- **defined by**: IA software

possible-copyright-status:
- **internal use only**: No
- **usage notes**: Do not use this field for CC license information (see licenseurl).
- **definition**: Information relevant to copyright status
- **required**: No
- **label**: Possible Copyright Status
- **repeatable**: No
- **accepted values**: string
- **edit access**: uploader
- **defined by**: uploader

publicdata:
- **internal use only**: Yes
- **usage notes**: Publicdate is automatically set when the first catalog task finishes on that item's directory.
- **definition**: The date and time in UTC that the item was created on archive.org.
- **required**: Yes
- **label**: Date Archived
- **repeatable**: No
- **accepted values**: YYYY-MM-DD HH:MM:SS,YYYY-MM-DD
- **edit access**: not editable
- **defined by**: IA software

publisher:
- **definition**: Publisher of the media
- **usage notes**: - Books use publisher - Movies often use production company - Music often uses record label
- **internal use only**: No
- **required**: No
- **label**: Publisher
- **repeatable**: No
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

related-external-id:
- **internal use only**: No
- **usage notes**: Related-external-id includes URNs for media related to the media in the item, but which are not exactly the same. The primary use of this tag is to list ISBNs, LCCNs, and OCLC numbers for other editions of the same work. These IDs are used for deduplication purposes in the scanning proces.
- **definition**: URLs or identifiers to resources related to the media, but not representing this exact form of the work
- **required**: No
- **label**: Related External Identifier
- **repeatable**: Yes
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

repub_state
- **internal use only**: Yes
- **definition**: Indicates the current state of a scanned book.
- **required**: No
- **label**: Repub State
- **repeatable**: No
- **accepted values**: Whole number
- **edit access**: IA admin
- **defined by**: IA software

republisher_date:
- **internal use only**: Yes
- **usage notes**: Set by Scribe3 software.
- **definition**: Date and time in UTC that the item was created archive.org
- **required**: No
- **label**: Republisher Date
- **repeatable**: No
- **accepted values**: YYYYMMDDHHMMSS

23

- **edit access**: IA admin
- **defined by**: IA software

republisher_operator:
- **internal use only**: Yes
- **usage notes**: Set by Scribe3 software.
- **definition**: Email of the person who completed republishing the item
- **required**: No
- **label**: Republisher Operator
- **repeatable**: No
- **accepted values**: email address
- **edit access**: IA admin
- **defined by**: IA software

scandate:
- **definition**: The date and time in UTC that the media was captured.
- **usage notes**: When an physical item is scanned/digitized, scandate represents the date/time that the digitization occurred. For web items, scandate represents the date/time the first WARC file in the item was created. For TV and radio items, scandate represents the begining time of the recording. Formats: YYYYMMDDHHMMSS YYYYMMDD YYYY YYYY-MM-DD HH:MM:SS
- **internal use only**: No
- **required**: No
- **label**: Scan Date
- **repeatable**: No
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

scanfee:
- **definition**: Scanning fee used during billing process
- **usage notes**: Set by software based on parameters for each scanning partner
- **internal use only**: Yes
- **required**: No
- **label**: Scan Fee
- **repeatable**: No
- **accepted values**: string
- **edit access**: IA admin
- **defined by**: IA software

scanner:
- **definition**: Machinery used to digitize or collect the media
- **usage notes**: Primarily an internally used field. For digitized texts this represents the individual digitization station (e.g. Scribe 2 in the New Jersey center). For web items this represents the crawl machine used to gather the data. For films this represents the film

24

scanner. For CDs this represents the version of the scanning software used for that CD. For end-user contriuted items, this represents the software used to upload the item.
- **internal use only**: No
- **required**: No
- **label**: Scanner
- **repeatable**: No
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

scanningcenter:
- **definition**: The location where a digital copy of the media item was created
- **usage notes**: Generally used in conjunction with our scanning services, this tag gives the location where an item was digitized, scanned or captured.
- **internal use only**: Yes
- **required**: No
- **label**: Scanning Center
- **repeatable**: No
- **accepted values**: String
- **edit access**: IA admin
- **defined by**: IA software

source:
- **internal use only**: No
- **usage notes**: Used to signify where a piece of media originated, or what the physical media was prior to digitization. - Focused crawl items list the site being crawled in this field. - Texts digitization centers use the field to denote folios. - TV uses the field to indicate the signal source. - Internal audio digitization projects use this field to indicate the format of the original media (CD, LP, 78, etc.). - External users often use this field to list a URL where the media content originated. - Etree users use it to record the "path" for recording a live concert.
- **definition**: Source of media
- **required**: No
- **label**: Source
- **repeatable**: No
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

sponsor:
- **definition**: The person or organization that funded the digitization or collection of this media.
- **usage notes**: For physical items (books, film, 78rpm, etc.), this represents the entity that funded the digitization/scanning work. For born-digital items (TV, Radio, Web, etc.) this represents the entity that funded the collection of the items.
- **internal use only**: No

25

- **required**: No
- **label**: Sponsor
- **repeatable**: No
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

subject:
- **definition**: Subjects and/or topics covered by the media content
- **usage notes**: Books and other media objects from libraries often use Library of Congress Subject Headings, http://id.loc.gov/authorities/subjects.html. Some collections may use their own controlled vocabulary for setting subjects. Many other items use the subject field as more casual "tags." All alphabets are supported.
- **internal use only**: No
- **required**: No
- **label**: Subject/Keyword
- **repeatable**: Yes
- **accepted values**: String
- **edit access**: uploader
- **defined by**: uploader

title:
- **definition**: Title of media
- **usage notes**: All alphabets are supported
- **internal use only**: No
- **required**: Recommended
- **label**: Title
- **repeatable**: No
- **accepted**
  values: String, plain text; no HTML or HTML entities (they'll be displayed in raw form).
- **edit access**: uploader
- **defined by**: uploader

Appendix F: TAKE DOWN NOTICES

Identifier	Bates	Date	To	From
mysteriousbenedi00stew	INTARC00194911	3/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00194952	3/27/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00194982	3/28/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195033	3/29/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195064	3/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195105	4/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195146	4/4/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195197	4/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195240	4/10/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195272	4/11/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195315	4/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195371	4/13/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195403	4/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195436	4/18/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195481	4/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195514	4/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195547	4/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195580	4/24/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195627	4/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195661	4/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195695	5/2/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195730	5/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195765	5/4/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195800	5/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195834	5/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195870	5/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195906	5/10/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195941	5/11/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00195976	5/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00196011	5/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00196046	5/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00196081	5/17/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00196116	5/18/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00196151	5/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew	INTARC00196186	5/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
mysteriousbenedi00stew_0	INTARC00194911	3/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
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mysteriousbenedi00stew_0	INTARC00331188	5/20/20	<info@archive.org>	<remedies@attributor.com>
treasureworthsee00brow	INTARC00193340	1/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193374	1/24/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193397	1/25/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193442	1/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193476	1/29/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>

Appendix F: TAKE DOWN NOTICES

Identifier	Bates	Date	To	From
treasureworthsee00brow	INTARC00193500	1/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193535	1/31/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193570	2/1/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193606	2/2/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193653	2/5/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193689	2/6/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193725	2/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193761	2/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193787	2/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193836	2/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193862	2/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193912	2/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193938	2/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00193987	2/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194013	2/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194051	2/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194101	2/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194127	2/27/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194175	2/28/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194212	3/1/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194238	3/2/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194275	3/5/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194323	3/6/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194372	3/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194409	3/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194446	3/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194472	3/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194498	3/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194536	3/13/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194573	3/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194610	3/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194636	3/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194673	3/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194721	3/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194758	3/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194784	3/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
treasureworthsee00brow	INTARC00194822	3/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
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temptationskiss00sand	INTARC00193056	12/29/17	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
temptationskiss00sand	INTARC00193084	1/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>

Appendix F: TAKE DOWN NOTICES

Identifier	Bates	Date	To	From
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Appendix F: TAKE DOWN NOTICES

Identifier	Bates	Date	To	From
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slowheatinheaven00sand	INTARC00194275	3/5/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194323	3/6/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194372	3/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194409	3/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194446	3/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194472	3/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194498	3/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194536	3/13/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194573	3/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194610	3/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194636	3/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194673	3/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194721	3/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194758	3/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194784	3/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194822	3/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194873	3/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194911	3/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194952	3/27/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00194982	3/28/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195033	3/29/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195064	3/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195105	4/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195146	4/4/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195197	4/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195240	4/10/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195272	4/11/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>

Appendix F: TAKE DOWN NOTICES

Identifier	Bates	Date	To	From
slowheatinheaven00sand	INTARC00195315	4/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195371	4/13/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195403	4/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195436	4/18/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195481	4/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195514	4/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195547	4/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195580	4/24/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195627	4/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195661	4/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195695	5/2/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195730	5/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195765	5/4/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195800	5/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195834	5/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195870	5/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195906	5/10/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195941	5/11/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00195976	5/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196011	5/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196046	5/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196081	5/17/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196116	5/18/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196151	5/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196186	5/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
slowheatinheaven00sand	INTARC00196911	2/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193476	1/29/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193500	1/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193535	1/31/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193570	2/1/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193606	2/2/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193653	2/5/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193689	2/6/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193725	2/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193761	2/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193787	2/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193836	2/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193862	2/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193912	2/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193938	2/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00193987	2/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194013	2/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194051	2/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194101	2/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194127	2/27/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194175	2/28/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194212	3/1/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
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rosiedunne00aher	INTARC00194673	3/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194721	3/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
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rosiedunne00aher	INTARC00194784	3/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194822	3/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194873	3/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
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rosiedunne00aher	INTARC00194952	3/27/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00194982	3/28/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195033	3/29/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195064	3/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195105	4/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195146	4/4/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195197	4/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195240	4/10/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195272	4/11/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195315	4/12/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>

Appendix F: TAKE DOWN NOTICES

Identifier	Bates	Date	To	From
rosiedunne00aher	INTARC00195371	4/13/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195403	4/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195436	4/18/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195481	4/19/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195514	4/20/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195547	4/23/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195580	4/24/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195627	4/26/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195661	4/30/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195695	5/2/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195730	5/3/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195765	5/4/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195800	5/7/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195834	5/8/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195870	5/9/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195906	5/10/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195941	5/11/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00195976	5/14/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196011	5/15/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196046	5/16/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196081	5/17/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196116	5/18/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196151	5/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196186	5/22/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>
rosiedunne00aher	INTARC00196911	2/21/18	<info@archive.org>	<hachette.antipiracy.services@ap.markmonitor.com>

Exhibit A: The metadata returned for the IA scan with identifier "isbn_9780143120544."

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4      "d2": "ia800507.us.archive.org",
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16         "crc32": "1106338c",
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18       },
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29       },
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100        "format": "Web ARChive GZ",
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102        "size": "844133",
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417        "Our urban species -- What do they make in Bangalore? -- Why do cities
418    decline? -- What's good about slums? -- How were the tenements tamed? -- Is
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420    sprawl spread? -- Is there anything greener than blacktop? -- How do cities
421    succeed? -- Flat world, tall city",
422        "Our urban species -- What do they make in Bangalore?: Ports of
423    intellectual entry: Athens ; Baghdad's house of wisdom ; Learning in Nagasaki
424    ; How Bangalore became a boom town ; Education and urban success ; The rise
425    of Silicon Valley ; The cities of tomorrow -- Why do cities decline?: How the
426    rust belt rose ; Detroit before cars ; Henry Ford and industrial Detroit ;
427    Why riot? ; Urban reinvention: New York since 1970 ; The righteous rage of
428    Coleman Young ; the Curley effect ; The edifice complex ; Remaining in the
429    rust belt ; Shrinking to greatness -- What's good about slums?: Rio's favelas
430    ; Moving on up ; Richard Wright's urban exodus ; Rise and fall of the
431    American ghetto ; The inner city ; How policy magnifies poverty -- How were
432    the tenements tamed?: The plight of Kinshasa ; Healing sick cities ; Street
433    cleaning and corruption ; More roads, less traffic? ; Making cities safer ;
434    Health benefits -- Is London a luxury resort?: Scale economies and the Globe
435    Theatre ; The division of labor and lamb vindaloo ; Shoes and the city ;
436    London as marriage market ; When are high wages bad? -- What's so great about
437    skyscrapers?: Inventing the skyscraper ; The soaring ambition of A.E.
438    Lefcourt ; Regulating New York ; Fear of heights ; The perils of preservation
439    ; Rethinking Paris ; Mismanagement in Mumbai ; Three simple rules -- Why has
440    sprawl spread?: Sprawl before cars ; Arthur Levitt and mass-produced housing
441    ; Rebuilding America around the car ; Welcome to The Woodlands ; Accounting
442    for tastes: why a million people moved to Houston ; Why is housing so cheap
443    in the sunbelt? ; What's wrong with sprawl? -- Is there anything greener than
444    blacktop?: The dream of garden living ; Dirty footprints: comparing carbon
445    emissions ; The unintended consequences of environmentalism ; Two green
446    visions: the prince and the mayor ; The biggest battle: greening India and
447    China ; Seeking smarter environmentalism -- How do cities succeed?: The
448    Imperial city: Tokyo ; The well-managed city: Singapore and Gaborone ; The
449    smart city: Boston, Minneapolis, and Milan ; The consumer city: Vancouver ;
450    The growing city: Chicago and Atlanta ; Too much of a good thing in Dubai --
451    Flat world, tall city: Give cities a level playing field ; Urbanization
452    through globalization ; Lend a hand to human capital ; Help poor people, not
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669             },
670             "sys_changed_by": {
671               "source": "mdapi",
672               "username": "charleshorn@archive.org"
673             },
674             "sys_last_changed": "2020-03-31 14:01:46.644476"
675           },
676           "kalamazoocollege-ol": {
677             "notes": {
678               "isbn": [
679                 "9781594202773"
680               ]
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681            },
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683              "source": "mdapi",
684              "username": "charleshorn@archive.org"
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688          "randolph-macon-college-ol": {
689            "notes": {
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692              ]
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696              "username": "charleshorn@archive.org"
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700          "riceuniversity-ol": {
701            "notes": {
702              "isbn": [
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704              ]
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706            "sys_changed_by": {
707              "source": "mdapi",
708              "username": "charleshorn@archive.org"
709            },
710            "sys_last_changed": "2020-04-03 09:18:42.944195"
711          },
712          "rochester-ol": {
713            "notes": {
714              "isbn": [
715                "9781594202773"
716              ]
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720              "username": "charleshorn@archive.org"
721            },
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724          "smithsonianlibraries": {
725            "notes": [
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728              },
729              {
730                "isbn": "9781594202773"
731              }
732            ],
733            "sys_changed_by": {
734              "source": "task",
735              "task_id": "746449194"
736            },
737            "sys_last_changed": "2017-09-29 21:46:49.574304"
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738              },
739              "the-claremont-colleges-ol": {
740                "notes": {
741                  "isbn": [
742                    "9780143120544"
743                  ]
744                },
745                "sys_changed_by": {
746                  "source": "mdapi",
747                  "username": "charleshorn@archive.org"
748                },
749                "sys_last_changed": "2020-03-26 23:51:52.547784"
750              },
751              "uni-ol": {
752                "notes": {
753                  "isbn": [
754                    "9781594202773"
755                  ]
756                },
757                "sys_changed_by": {
758                  "source": "mdapi",
759                  "username": "charleshorn@archive.org"
760                },
761                "sys_last_changed": "2021-04-24 12:21:28.643977"
762              },
763              "universityofarizona-ol": {
764                "notes": {
765                  "isbn": [
766                    "9781594202773"
767                  ]
768                },
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770                  "source": "mdapi",
771                  "username": "charleshorn@archive.org"
772                },
773                "sys_last_changed": "2020-04-14 10:29:22.222961"
774              },
775              "universityofcoloradoboulder-ol": {
776                "notes": {
777                  "isbn": [
778                    "9781594202773"
779                  ]
780                },
781                "sys_changed_by": {
782                  "source": "mdapi",
783                  "username": "charleshorn@archive.org"
784                },
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786              },
787              "universityofoklahoma-ol": {
788                "notes": {
789                  "isbn": [
790                    "9781594202773"
791                  ]
792                },
793                "sys_changed_by": {
794                  "source": "mdapi",
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795              "username": "charles.horn@gmail.com"
796            },
797            "sys_last_changed": "2019-12-05 03:35:57.676744"
798          },
799          "worthingtonlibraries-ol": {
800            "notes": {
801              "isbn": [
802                "9781594202773"
803              ]
804            },
805            "sys_changed_by": {
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807              "username": "charleshorn@archive.org"
808            },
809            "sys_last_changed": "2020-10-08 05:23:34.715394"
810          }
811        }
812      },
813      "uniq": 455498775,
814      "workable_servers": [
815        "ia600507.us.archive.org",
816        "ia800507.us.archive.org"
817      ],
818      "xisbn": {
819        "stat": "ok",
820        "list": [
821          {
822            "url": [
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824            ],
825            "publisher": "Penguin Books",
826            "form": [
827              "BC"
828            ],
829            "lccn": [
830              "2010034609"
831            ],
832            "lang": "eng",
833            "city": "New York, New York",
834            "author": "Edward Glaeser.",
835            "year": "2012",
836            "isbn": [
837              "0143120549"
838            ],
839            "title": "Triumph of the city : how our greatest invention makes us
840    richer, smarter, greener, healthier, and happier",
841            "oclcnum": [
842              "727703512",
843              "804698464",
844              "845006457",
845              "650211168",
846              "731888654"
847            ]
848          },
849          {
850            "url": [
851              "http://www.worldcat.org/oclc/650211168?referer=xid"
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852              ],
853              "publisher": "Penguin Press",
854              "form": [
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856              ],
857              "lccn": [
858                "2010034609"
859              ],
860              "lang": "eng",
861              "city": "New York",
862              "author": "Edward L. Glaeser.",
863              "ed": "1st ed.",
864              "year": "2011",
865              "isbn": [
866                "159420277X"
867              ],
868              "title": "Triumph of the city : how our greatest invention makes us
869      richer, smarter, greener, healthier, and happier",
870              "oclcnum": [
871                "650211168",
872                "726829630",
873                "731888654",
874                "741095748",
875                "754644587",
876                "769095094",
877                "832629025",
878                "875752124",
879                "845006457"
880              ]
881            },
882            {
883              "url": [
884                "http://www.worldcat.org/oclc/757931040?referer=xid"
885              ],
886              "publisher": "Pan",
887              "form": [
888                "BC"
889              ],
890              "lang": "eng",
891              "city": "London",
892              "author": "by Edward Glaeser.",
893              "year": "2012",
894              "isbn": [
895                "0330458078"
896              ],
897              "title": "Triumph of the city : how our greatest invention makes us
898      richer, smarter, greener, healthier and happier",
899              "oclcnum": [
900                "757931040",
901                "778121965",
902                "778355455",
903                "798803188",
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906                "821921176",
907                "868323507",
908                "832629025"
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909              ]
910          },
911          {
912            "url": [
913              "http://www.worldcat.org/oclc/811358614?referer=xid"
914            ],
915            "publisher": "Enutƒ´tƒ´shuppan",
916            "form": [
917              "BA"
918            ],
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920            "city": "T≈çky≈ç",
921            "author": "Glaeser Edward L.;Yamagata Hir≈ç.",
922            "originalLang": "eng",
923            "year": "2012",
924            "isbn": [
925              "475714279X"
926            ],
927            "title": "Toshi wa jinrui saik≈ç no hatsumei de aru",
928            "oclcnum": [
929              "811358614",
930              "825167958"
931            ]
932          },
933          {
934            "url": [
935              "http://www.worldcat.org/oclc/704895956?referer=xid"
936            ],
937            "publisher": "Macmillan",
938            "form": [
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940            ],
941            "lang": "eng",
942            "city": "[London]",
943            "author": "Edward Glaeser.",
944            "ed": "Export ed.",
945            "year": "2011",
946            "isbn": [
947              "0230709389"
948            ],
949            "title": "Triumph of the city",
950            "oclcnum": [
951              "704895956",
952              "741736993",
953              "751581637",
954              "757821292",
955              "768970486",
956              "782046805",
957              "800805763",
958              "723403945"
959            ]
960          },
961          {
962            "url": [
963              "http://www.worldcat.org/oclc/759841377?referer=xid"
964            ],
965            "publisher": "Penguin Press",
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966             "form": [
967               "BA",
968               "DA"
969             ],
970             "lang": "eng",
971             "city": "New York",
972             "author": "Edward L. Glaeser.",
973             "year": "2011",
974             "isbn": [
975               "1101467339"
976             ],
977             "title": "Triumph of the city how our greatest invention makes us
978     richer, smarter, greener, healthier, and happier",
979             "oclcnum": [
980               "759841377",
981               "857302573"
982             ]
983           },
984           {
985             "url": [
986               "http://www.worldcat.org/oclc/723403945?referer=xid"
987             ],
988             "publisher": "Pan Macmillan",
989             "form": [
990               "BC"
991             ],
992             "lang": "eng",
993             "city": "London",
994             "author": "Glaeser, Edward.",
995             "ed": "Export ed.",
996             "year": "2011",
997             "isbn": [
998               "0230709397"
999             ],
1000            "title": "The Triumph of the City",
1001            "oclcnum": [
1002              "723403945",
1003              "846925637",
1004              "868291656",
1005              "704895956",
1006              "741736993",
1007              "757821292",
1008              "768970486",
1009              "782046805",
1010              "800805763"
1011            ]
1012          },
1013          {
1014            "url": [
1015              "http://www.worldcat.org/oclc/759841377?referer=xid"
1016            ],
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1018            "form": [
1019              "BA",
1020              "DA"
1021            ],
1022            "lang": "eng",
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1023            "city": "New York",
1024            "author": "Edward L. Glaeser.",
1025            "year": "2011",
1026            "isbn": [
1027              "1101475676"
1028            ],
1029            "title": "Triumph of the city how our greatest invention makes us
1030   richer, smarter, greener, healthier, and happier",
1031            "oclcnum": [
1032              "759841377",
1033              "857302573"
1034            ]
1035          }
1036        ]
1037      }
1038   }
```

Exhibit B: The contents of https://archive.org/download/denverpubliclibrary-ol on February 18, 2022.

```
<?xml version="1.0" encoding="UTF-8"?>
<files>
  <file name="__ia_thumb.jpg" source="original">
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    <format>Item Tile</format>
    <rotation>0</rotation>
    <md5>73885b645132c40eb1f4c10db1d30f6f</md5>
    <crc32>15b8fb66</crc32>
    <sha1>d9ca585b6ab0cd7a1a681ca53b06ffb24aaa9e1b</sha1>
  </file>
  <file name="denverpubliclibrary-ol_archive.torrent" source="metadata">
    <btih>d8d33c191db69dbf41af2790760113f564c828ad</btih>
    <mtime>1645046354</mtime>
    <size>48959</size>
    <md5>c19ffe63e1779d15b6bc2b600ee5ceb2</md5>
    <crc32>8c13db14</crc32>
    <sha1>7e838e37208d3d52b33abaf2875ddfd80bc4b038</sha1>
    <format>Archive BitTorrent</format>
  </file>
  <file name="denverpubliclibrary-ol_files.xml" source="original">
    <format>Metadata</format>
    <md5>d01b7e46a76fe22fb289bb22072e006b</md5>
    <summation>md5</summation>
  </file>
  <file name="denverpubliclibrary-ol_itemimage.png" source="original">
    <mtime>1602745654</mtime>
    <size>12548</size>
    <md5>b9e4b8db92eadd86b305dac67507d6d7</md5>
    <crc32>ef26f587</crc32>
    <sha1>7d5fba0c5d6ef12a74e39b23bd5b3d331e4fbc84</sha1>
    <format>Item Image</format>
  </file>
  <file name="denverpubliclibrary-ol_meta.sqlite" source="original">
    <mtime>1641183056</mtime>
    <size>198656</size>
    <format>Metadata</format>
    <md5>4c2900988337345cc7d116e05d6f622b</md5>
    <crc32>caf63856</crc32>
    <sha1>0dfb42eb4574ce6f20ee8fb5e421250f161c873c</sha1>
  </file>
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    <mtime>1595321994</mtime>
    <size>926</size>
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    <md5>03dbd8df851dda70a9b838679bb863fb</md5>
    <crc32>6b065586</crc32>
    <sha1>6dff8f50c765077dfcaece411fc9f210bdb2ca2a</sha1>
  </file>
  <file name="denverpubliclibrary-ol_simplelists.sqlite" source="original">
    <mtime>1645046347</mtime>
    <size>21281792</size>
    <format>SimpleLists Archival Backup</format>
    <md5>065bc29792ee0be56ac7c9707e35b2ec</md5>
    <crc32>7b0434aa</crc32>
    <sha1>ad2f2ef3d0c9a8b2f71c3cfdef1c12275f5f9905</sha1>
  </file>
  <file name="denverpubliclibrary.tsv" source="original">
    <mtime>1641183045</mtime>
```

```
    <size>1405348</size>
    <md5>aea919bc22493a27591af54304e988df</md5>
    <crc32>60d675c2</crc32>
    <sha1>9052450c54cbe07e31d717e4abfa198ec7fe010f</sha1>
    <format>Tab-Separated Values</format>
  </file>
  <file name="denverpubliclibrary_20190213_digital_direct_matches-
exclusions_conflated.lst" source="original">
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    <md5>d41d8cd98f00b204e9800998ecf8427e</md5>
    <crc32>00000000</crc32>
    <sha1>da39a3ee5e6b4b0d3255bfef95601890afd80709</sha1>
    <format>Unknown</format>
  </file>
  <file name="denverpubliclibrary_20190213_digital_direct_matches.tsv"
source="original">
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    <size>316562</size>
    <md5>767d93b79a95cc12397ca43c5b13e211</md5>
    <crc32>18513d54</crc32>
    <sha1>15faddc0f120b815f9d1a26c2375f862b1fe3606</sha1>
    <format>Tab-Separated Values</format>
  </file>
  <file name="denverpubliclibrary_20190213_digital_similar_matches.tsv"
source="original">
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    <crc32>b8e26698</crc32>
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    <format>Tab-Separated Values</format>
  </file>
  <file name="denverpubliclibrary_20190213_inlibrary_direct_matches-
exclusions_conflated.lst" source="original">
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    <size>13421</size>
    <md5>4344e0963c6d32019210e7057d1d0b98</md5>
    <crc32>2d298f62</crc32>
    <sha1>b8b6720a41a14dee48789dd73283874ccafb1bc4</sha1>
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source="original">
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    <crc32>fa0e9e4f</crc32>
    <sha1>85d76196073347831780a275278676e3ff9737b5</sha1>
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  </file>
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source="original">
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    <size>1308227</size>
    <md5>af3851f81c0c957068b3e7a4ee91ce5a</md5>
    <crc32>acb09b3a</crc32>
    <sha1>c1aa0d37ff6fe0b06fe9fb675f0526f4e8cf9919</sha1>
    <format>Tab-Separated Values</format>
  </file>
  <file name="denverpubliclibrary_20190213_overlap_summary.txt" source="original">
    <mtime>1602458123</mtime>
    <size>390</size>
```

```xml
      <md5>a388c637cf3955ae2e7164bbdaea01fc</md5>
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      <crc32>58d03bc0</crc32>
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  </file>
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source="original">
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      <size>4002257</size>
      <md5>9f3c7feb5ad27d7767ff6098ab3e5650</md5>
      <crc32>ee7a0dae</crc32>
      <sha1>ad9df4945fa11e17389b8c97ed7457d0212a344b</sha1>
      <format>Tab-Separated Values</format>
  </file>
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      <format>Tab-Separated Values</format>
  </file>
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source="original">
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      <crc32>6a272cf8</crc32>
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source="original">
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      <crc32>9d32ea79</crc32>
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      <format>Tab-Separated Values</format>
  </file>
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      <crc32>953b7bfd</crc32>
      <sha1>b3f36f4459c682403f1e0018fce4eb9a086b08e8</sha1>
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  </file>
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source="original">
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  </file>
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    <crc32>0ba88457</crc32>
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    <crc32>6c93d4da</crc32>
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    <md5>d41d8cd98f00b204e9800998ecf8427e</md5>
    <crc32>00000000</crc32>
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    <md5>006025b21774f3ff63d2b5bd7141d608</md5>
    <crc32>9ef60cfa</crc32>
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    <crc32>07485bf3</crc32>
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    <crc32>9ade7388</crc32>
    <sha1>a044e63a7968ec6d3ae3ef56e7357a058d044ef3</sha1>
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source="original">
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    <md5>cd34963b96501a6f81f686b4725335bd</md5>
    <crc32>86846b95</crc32>
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    <md5>1bec9f9663515671c53abe03e2349090</md5>
    <crc32>8aaac7d1</crc32>
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source="original">
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    <crc32>5e009776</crc32>
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    <crc32>9ef60cfa</crc32>
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source="original">
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    <md5>1a0c46917658237f5fde004522e9e280</md5>
    <crc32>5f4ff984</crc32>
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source="original">
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    <md5>69d5589b914096e97d7e3e0dfc502787</md5>
    <crc32>b7d3d5f5</crc32>
    <sha1>cf5bdeeb10f1e124ce03edf2f25f4d1f29703552</sha1>
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  <file name="denverpubliclibrary_20210701_physical_direct_matches-
exclusions_conflated.lst" source="original">
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    <size>15341</size>
    <md5>23bab6bfc1955dcf3f544ac592933949</md5>
    <crc32>9ade7388</crc32>
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source="original">
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    <crc32>e9666954</crc32>
    <sha1>7e52cdd472f6e35e17fd101a4ec8e40dde99e7f5</sha1>
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source="original">
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    <crc32>ca2d2cb2</crc32>
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source="original">
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    <size>2338</size>
    <md5>b1204369c849d39c67ff5c8451f44550</md5>
    <crc32>426b9ae3</crc32>
    <sha1>0a655d07c95057964fe2497f5dd0fe94dc5f4bc3</sha1>
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  </file>
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source="original">
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source="original">
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    <crc32>ce5021ea</crc32>
    <sha1>e980178125a28098609e002b00ef49726351e85c</sha1>
    <format>Tab-Separated Values</format>
  </file>
  <file name="denverpubliclibrary_20210801_overlap_summary.txt" source="original">
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    <size>516</size>
    <md5>bc213d1459fc47a3670d828d96048b1b</md5>
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  </file>
  <file name="denverpubliclibrary_20210801_physical_direct_matches-
exclusions_conflated.lst" source="original">
    <mtime>1627964560</mtime>
    <size>15341</size>
    <md5>23bab6bfc1955dcf3f544ac592933949</md5>
    <crc32>9ade7388</crc32>
    <sha1>a044e63a7968ec6d3ae3ef56e7357a058d044ef3</sha1>
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    <md5>a96ef51b80d176e17bfa41e48cea1a15</md5>
    <crc32>8b467db9</crc32>
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    <crc32>cb6190f6</crc32>
    <sha1>4f653a2f3116f1b7f1b7f7836ace498d28455795</sha1>
    <format>Tab-Separated Values</format>
  </file>
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source="original">
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    <crc32>b05d50cd</crc32>
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exclusions_conflated.lst" source="original">
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    <size>14668</size>
    <md5>f62045112a73571e9caf2fe7f1c15d9e</md5>
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  </file>
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source="original">
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    <md5>67c6497e1bc1c1bf2b77c74c462f396d</md5>
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source="original">
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    <size>1953876</size>
    <md5>1b305bd60f72c7b18c7931c6caa17e5b</md5>
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    <sha1>f1bfa5f743836839e0fd42dc2d91e3d26139379b</sha1>
    <format>Tab-Separated Values</format>
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    <size>516</size>
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    <crc32>03a6fa35</crc32>
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  </file>
  <file name="denverpubliclibrary_20210901_physical_direct_matches-
exclusions_conflated.lst" source="original">
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    <md5>061528b2e94d1a2b251f1be28faf85fe</md5>
    <crc32>54e72f34</crc32>
    <sha1>99003c0327faaf7441122e26f09ff891cf552dda</sha1>
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source="original">
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    <size>8117361</size>
    <md5>dd88648aee3bcde5a928d272e9683cef</md5>
    <crc32>0587c4e8</crc32>
    <sha1>03ea3ceeb022c35d1a8dd2ea262bad18afe253bd</sha1>
    <format>Tab-Separated Values</format>
  </file>
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source="original">
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source="original">
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    <crc32>e77667e8</crc32>
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  </file>
  <file name="denverpubliclibrary_20211001_inlibrary_direct_matches-
exclusions_conflated.lst" source="original">
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    <md5>fbbe7811f594a2d1bf631d451c8451b1</md5>
    <crc32>f3cb4c0c</crc32>
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    <sha1>fe6952fd91769e4e2b4f3fb9d79a902c218b6eb7</sha1>
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  </file>
  <file name="denverpubliclibrary_20211001_inlibrary_similar_matches.tsv"
source="original">
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    <sha1>a4d39218603128cc9d9bd7058a5670b3df576e6c</sha1>
    <format>Tab-Separated Values</format>
  </file>
  <file name="denverpubliclibrary_20211001_overlap_summary.txt" source="original">
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    <crc32>5ab9623a</crc32>
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    <format>Text</format>
  </file>
  <file name="denverpubliclibrary_20211001_physical_direct_matches-
exclusions_conflated.lst" source="original">
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    <size>15318</size>
    <md5>7950d40ff85d7f8138cac5fc203b55f3</md5>
    <crc32>d5789200</crc32>
    <sha1>846552f0dfd67e7ba27ee2fe5ec1991c8ab43c60</sha1>
    <format>Unknown</format>
  </file>
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source="original">
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    <size>8134988</size>
    <md5>4b6f879711c1b091d2ee4a0330a46066</md5>
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    <format>Tab-Separated Values</format>
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source="original">
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    <size>2235581</size>
    <md5>ab530d997d02c06162ad4c769cc91d86</md5>
    <crc32>096cb3e5</crc32>
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</file>
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source="original">
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    <crc32>b4361fa6</crc32>
    <sha1>d04fd2795c6ced893b27101a57f6904c0ae52518</sha1>
    <format>Tab-Separated Values</format>
</file>
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exclusions_conflated.lst" source="original">
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    <size>14545</size>
    <md5>fbbe7811f594a2d1bf631d451c8451b1</md5>
    <crc32>f3cb4c0c</crc32>
    <sha1>8ad019dd5b01c9d26ecc3062d5091c7d884ce809</sha1>
    <format>Unknown</format>
</file>
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source="original">
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    <size>7610643</size>
    <md5>c0a2ce864eba28b7cea4fe2c5785199a</md5>
    <crc32>3587bded</crc32>
    <sha1>d509760da7a087e5c812c1e1b9cbcd8c34f25066</sha1>
    <format>Tab-Separated Values</format>
</file>
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source="original">
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    <size>1947558</size>
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    <crc32>f5adaf1f</crc32>
    <sha1>32f3c9e9b2810456a065e342df351f7304041689</sha1>
    <format>Tab-Separated Values</format>
</file>
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    <crc32>589b6731</crc32>
    <sha1>1086d29f2a0a09d4ffd93acc8b43a59d70833547</sha1>
    <format>Text</format>
</file>
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<file name="denverpubliclibrary_20211110_physical_direct_matches-
exclusions_conflated.lst" source="original">
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```
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exclusions_conflated.lst" source="original">
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  </file>
</files>
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Exhibit C: Works in Suit and associated Scan identifiers for which Web log data supplied by IA indicates that the Read Aloud feature was used.

WIS	Author	Title	Scan Identifier
1	Ahern, Cecelia	PS, I Love You	psiloveyou00aherx
2	Albertalli, Becky	Simon vs. the Homo Sapiens Agenda	simonvshomosapie0000albe
3	Applegate, Katherine	The One and Only Ivan	oneonlyivan0000appl_z2y5 oneonlyivan0000appl
4	Bacigalupi, Paolo	Ship Breaker	shipbreakernovel00baci
7	Brown, Sandra	Best Kept Secrets	bestkeptsecrets00brow
8	Brown, Sandra	The Witness	witness00brow_0 witnessbrow00brow
9	Bryson, Bill	A Short History of Nearly Everything	isbn_9780965738408 isbn_9780375432002
10	Bryson, Bill	A Short History of Nearly Everything: Special Illustrated Edition	shorthistoryofne00brys_1
13	Catling, Patrick Skene	The Chocolate Touch	chocolatetouchth00patr chocolatetouch00marg chocolatetouch00catl chocolatetouch00catl_0
14	Cisneros, Sandra	The House on Mango Street	houseonmangostr000cisn houseonmangostre00cisn
16	Corey, James S.A.	Leviathan Wakes	leviathanwakes0000core
20	Danforth, Emily M.	The Miseducation of Cameron Post	isbn_9780062020567
21	Demuth, Patricia	Who is Bill Gates?	whoisbillgates0000demu
22	Dugoni, Robert	The Jury Master	isbn_9780786287789
26	Fitzpatrick, Huntley	My Life Next Door	mylifenextdoor0000fitz
27	Flynn, Gillian	Gone Girl	isbn_9780307588371 isbn_9780553418354 gonegirlnovel00flyn
28	Forman, Gayle	If I Stay	ifistaynovel0000form ifistay00gayl ifistaynovel00form
30	Giddings, Anita; Clifton, Sherry Stone	Oil Painting for Dummies	isbn_9780470182307
31	Gilbert, Elizabeth	Eat, Pray, Love: One Woman's Search for Everything Across Italy, India and Indonesia	eatprayloveonewo00gilb eatpraylovelarge00gilb
33	Gladwell, Malcolm	What the Dog Saw	whatdogsawothera00glad
34	Gladwell, Malcolm	Blink: The Power of Thinking Without Thinking	blinkpowerofthin00glad
35	Gladwell, Malcolm	Tipping Point: How Little Things Can Make a Big Difference	tippingpointhowl00glad

WIS	Author	Title	Scan Identifier
36	Golding, William	Lord of the Flies	lordofflies00gold lordofflies00gold_0 lordofflies00gold_1 lordoffliesnovelgol00gold lordoffliesnovel00gold lordoffliesnovel0000gold
37	Gordon, Jon	The Energy Bus	energybus10rules00gord
38	Grabenstein, Chris	Escape from Mr. Lemon-cello's Library	escapefrommrlemo0000grab
39	Graham, Benjamin	The Intelligent Investor	intelligentinves00benj intelligentinves00grah_1
41	Grisham, John	The Innocent Man: Murder and Injustice in a Small Town	innocentmanmurde00gris_0 innocentman00john
42	Grisham, John	Theodore Boone: Kid Lawyer	theodoreboonekid00gris isbn_9780142417225
44	Hall, Michael	Red: A Crayon's Story	redcrayonsstory00hall
45	Herman, Gail	Who was Jackie Robinson?	whowasjackierobi0000herm
46	Hiaasen, Carl	Scat	scat0000hiaa scathiaa00hiaa
47	Hurston, Zora Neale	Their Eyes Were Watching God	isbn_9780060838676 theireyeswerewat1998hurs theireyeswere00hurs isbn_0252006860
48	Jahren, Hope	Lab Girl	labgirl0000jahr
50	Jance, J.A.	Judgment Call	judgmentcallbrad0000janc
52	Kalanithi, Paul	When Breath Becomes Air	whenbreathbecome0000kala
53	Kate, Lauren	Fallen	fallen00laur isbn_9780385738934
56	Krakauer, Jon	Into the Wild	intowildmti00jonk_tg3 intowildmti00jonk intowild00krak_1
59	L'Amour, Louis	Hondo	hondo00lamo_2
61	Larson, Erik	Dead Wake: the Last Crossing of the Lusitania	deadwakelastcros0000lars
69	Levine, Barry	All the President's Women: Donald Trump and the Making of a Predator	allpresidentswom0000levi
70	Lewis, C. S.	The Lion, the Witch, and the Wardrobe	lionwitchwardroblew00lewi lionwitchwardrobcs00lewi completechronicl0000lewi lionwitchwardrob0000lewi chroniclesofnar00lewi chroniclesofnarn00lewi lionwitchwardroblion00lewi isbn_9780060234812 isbn_0060765488 lionwitchwardroblewi00lewi lionwitchwardroblewis00lewi isbn_9780006716778 isbn_0590405950 isbn_9780060890155
71	Lewis, C. S.	The Magician's Nephew	completechronicl0000lewi magiciansnephew00lewi chroniclesofnar00lewi chroniclesofnarn00lewi

WIS	Author	Title	Scan Identifier
73	Mandel, Emily St. John	Station Eleven	stationelevennov0000mand
74	Martin, George R. R.	A Dance with Dragons	dancewithdragons00geor dancewithdragons00mart
75	McCarthy, Cormac	The Road	road00mcca roadmovietieined00corm unset0000unse_f0a5
76	Miller, Donalyn	The Book Whisperer	bookwhispererawa00mill
77	Morgenstern, Erin	The Night Circus	nightcircus00erin nightcircusnovel00morg
78	Morrison, Toni	Song of Solomon	songofsolomon0000morr songofsolomon00morr_0
79	Morrison, Toni	The Bluest Eye	bluesteye00morr_0 bluesteyenovel00morr_0 bluesteye00morr_2 bluesteyenovel0000morr sparknotesbluest00toni
81	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Too Many Tutus	fancynancytooman0000ocon
84	Park, Barbara	Junie B., First Grader: Boss of Lunch	juniebfirstgrad00park juniebfirstbosso00park
86	Patterson, James	Middle School, the Worst Years of My Life	middleschoolwors0000patt
88	Patterson, James; Grabenstein, Chris	I Funny: A Middle School Story	ifunny0000patt_w7e5 ifunny0000patt
89	Peirce, Lincoln	Big Nate: Mr. Popularity	isbn_9780062087003
90	Peirce, Lincoln	Big Nate: Genius Mode	isbn_9780062086983
91	Peirce, Lincoln	Big Nate Goes for Broke	bignategoesforbr00peir
92	Pinker, Steven	The Better Angels of Our Nature: Why Violence has Declined	betterangelsofou0000pink
93	Plath, Sylvia	The Bell Jar	belljarplat00plat belljar00platrich belljarps00sylv
98	Salinger, J. D.	The Catcher in the Rye	catcherinrye00salirich catcye00jdsa catcherinrye0000sali catcherinrye00bant catcherinrye0000sali_u5n7 catcherinrye0000sali_n7t7
101	Salinger, J. D.	Raise High the Roof Beam, Carpenters, and Seymour: An Introduction	raisehighroofbea0000sali_l9y4
102	Sandford, John	Phantom Prey	phantomprey000sand phantomprey00sand
104	Schneider, Robyn	Extraordinary Means	extraordinarymea0000schn
107	Snicket, Lemony	Who Could That Be at This Hour?	whocouldthatbeat00snic
108	Snicket, Lemony	When Did You See Her Last?	isbn_9780316123051

WIS	Author	Title	Scan Identifier
110	Stewart, Trenton Lee	The Mysterious Benedict Society	mysteriousbenedi00stew
111	Stewart, Trenton Lee	The Mysterious Benedict Society and the Perilous Journey	mysteriousbenedi00stew_0
114	Tahir, Sabaa	An Ember in the Ashes	isbn_9781595148032
115	Turnage, Sheila	Three Times Lucky	threetimeslucky0000turn_e7y3 threetimeslucky0000turn
116	van der Kolk, Bessel A.	The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma	isbn_9780143127741
118	Wilder, Laura Ingalls	Little House in the Big Woods	littlehouseinbig0000wild littlehouseinbig00wild_1 littlehouseinbig00scho isbn_0590085247 littlehouseinbig00wild_6
119	Wilder, Laura Ingalls	Little House on the Prairie	littlehouseonpra00wild_2 littlehouseonpra00wild
120	Wilder, Laura Ingalls	Farmer Boy	farmerboy00wild farmerboy00wild_0
122	Winspear, Jacqueline	Journey to Munich	journeytomunichn0000wins
125	Wouk, Herman	The Winds of War	windsof00wouk
126	Wouk, Herman	The Caine Mutiny: A Novel of World War II	cainemutinywo00wouk
127	Zuckerman, Gregory	The Man Who Solved the Market	manwhosolvedmark0000zuck

Exhibit T3: Maximum actual concurrent loans and total loans for each Scan that matches with a Work in Suit, from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data). Data are divided into three periods: prior to 2019, 2019, and 2020; for total loans, the overall number is also provided.

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
1	Ahern, Cecelia	PS, I Love You	psiloveyou0000aher	0	1	4	0	1	12	13
			psiloveyou00cece	0	3	1	10	6	1	17
			psiloveyou00aherx	0	3	4	35	22	10	67
			psiloveyouintern00cece	0	1	2	10	13	5	28
			psiloveyou00aher_2	0	2	6	0	21	33	54
			psiloveyou0000aher_n2n7	0	0	0	0	0	0	0
			psiloveyou00cece_1	1	1	2	2	10	6	18
			psiloveyou00aher	1	3	4	34	22	9	65
			psiloveyou0000aher_r5n5	0	0	0	0	0	0	0
2	Albertalli, Becky	Simon vs. the Homo Sapiens Agenda	simonvshomosapie0000albe	0	3	129	0	16	483	499
3	Applegate, Katherine	The One and Only Ivan	oneonlyivan0000appl_z2y5	0	0	207	0	0	718	718
			oneonlyivan0000appl	0	0	49	0	0	205	205
4	Bacigalupi, Paolo	Ship Breaker	shipbreakernovel00baci	2	5	15	34	42	56	132
5	Brown, Brené	Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead	daringgreatlyhow0000brow	0	0	81	0	0	120	120
6	Brown, Pierce	Golden Son	goldenson0000brow	0	0	9	0	0	27	27
7	Brown, Sandra	Best Kept Secrets	bestkeptsecrets00brow	2	3	6	93	51	30	174
			bestkeptsecretst00sand	1	1	2	48	20	13	81
			bestkeptsecrets00brow_1	0	2	4	10	11	12	33
			bestkeptsecrets00brow_0	1	3	6	67	82	41	190
			threecompletenov00brow	2	2	4	55	21	12	88
8	Brown, Sandra	The Witness	witnesbrow00brow	1	2	4	35	8	14	57
			witness00brow_0	1	1	5	28	19	21	68
			witnessbr00brow	1	2	2	23	9	11	43
			witnessbrow00brow	1	1	3	38	28	13	79
			witness00brow	1	1	2	31	19	15	65
			witnessbrows00brow	1	3	2	72	38	2	112
			witnessbrown00brow	0	2	2	12	17	6	35
			witnesshardcover00sand	1	1	3	13	9	8	30
9	Bryson, Bill	A Short History of Nearly Everything	shorthistoryofne0000brys	0	0	1	0	0	4	4
			shorthistoryofn000brys	0	0	0	0	0	0	0
			shorthistoryofne00brys	1	5	19	64	67	73	204
			isbn_9780965738408	2	9	67	50	130	267	447
			isbn_9780375432002	1	1	14	7	21	47	75

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
10	Bryson, Bill	A Short History of Nearly Everything: Special Illustrated Edition	shorthistoryofne00brys_1	1	3	9	27	34	31	92
11	Cabot, Meg	The Bride Wore Size 12	brideworesize120000cabo_x4s5	0	2	2	0	23	8	31
			brideworesize120000cabo	1	2	4	1	15	9	25
12	Carter, Les	Enough About You, Let's Talk About Me: How to Recognize and Manage the Narcissists in Your Life	enoughaboutyoul00cart	1	2	1	7	14	2	23
			enoughaboutyoule00cart	1	2	5	29	28	19	76
13	Catling, Patrick Skene	The Chocolate Touch	chocolatetouch00catl_1	0	1	1	0	5	4	9
			chocolatetouch00patr	1	2	7	36	16	27	79
			chocolatetouchth00patr	1	1	17	33	5	56	94
			chocolatetouch00marg	1	2	40	35	30	148	213
			chocolatetouch00catl	1	3	58	67	19	189	275
			chocolatetouch00catl_0	1	3	26	6	41	125	172
14	Cisneros, Sandra	The House on Mango Street	houseonmangostr000cisn	1	7	176	11	120	493	624
			houseonmangostre00sand	1	7	19	32	58	73	163
			houseonmangostre00cisn	2	3	30	74	42	74	190
15	Conti, Peter; Harris, Peter	Commercial Real Estate Investing for Dummies	commercialreales0000cont	0	1	2	0	2	7	9
16	Corey, James S.A.	Leviathan Wakes	leviathanwakes0000core	0	0	58	0	0	148	148
17	Corey, James S.A.	Caliban's War	calibanswar00core	1	6	29	11	60	105	176
18	Crossan, Sarah	Breathe	breathe0000cros	0	1	3	0	1	14	15
19	Crossan, Sarah	Resist	resist0000cros	0	3	5	1	6	12	19
20	Danforth, Emily M.	The Miseducation of Cameron Post	isbn_9780062020567	1	6	36	26	37	179	242
21	Demuth, Patricia	Who is Bill Gates?	whoisbillgates0000demu	0	0	10	0	0	37	37
22	Dugoni, Robert	The Jury Master	jurymaster0000dugo	0	0	0	0	0	0	0
			jurymaster00dugo	0	2	2	16	14	7	37
			isbn_0446617075	0	1	1	6	7	3	16
			isbn_9780786287789	0	1	2	0	5	5	10
23	Epstein, David J.	The Sports Gene: Inside the Science of Extraordinary Athletic Performance	sportsgeneinside0000epst	0	2	7	0	4	31	35
24	Evanovich, Janet	Foul Play	foulplay00jane_0	1	2	3	3	18	14	35
25	Fisher, Kenneth L.	The Only Three Questions that Still Count: Investing by Knowing What Others Don't	onlythreequestio0000fish	0	0	1	0	0	3	3
			onlythreequestio0000fish_w7r8	0	0	0	0	0	0	0
26	Fitzpatrick, Huntley	My Life Next Door	mylifenextdoor0000fitz	0	0	26	0	0	129	129

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
27	Flynn, Gillian	Gone Girl	gonegirlnovel0000flyn	0	1	3	0	3	21	24
			isbn_9780307588371	1	6	20	5	52	122	179
			isbn_9780553418354	1	1	4	3	25	25	53
			gonegirlnovel0000flyn_c1c5	0	0	0	0	0	0	0
			gonegirlnovel00flyn	1	5	58	5	44	309	358
28	Forman, Gayle	If I Stay	ifistaynovel0000form	0	0	4	0	0	11	11
			ifistay00gayl	2	5	23	54	71	88	213
			ifistaynovel00form	1	4	27	32	75	141	248
			ifistay10000form	0	0	1	0	0	1	1
29	Gardner, Lisa	Fear Nothing	isbn_9780525953081	0	3	6	0	38	44	82
			isbn_9780451469397	1	1	4	1	18	18	37
30	Giddings, Anita; Clifton, Sherry Stone	Oil Painting for Dummies	isbn_9780470182307	0	3	6	0	30	17	47
			oilpaintingfordu0000gidd	0	0	2	0	0	2	2
			oilpaintingfordu01gidd	1	3	4	22	29	17	68
31	Gilbert, Elizabeth	Eat, Pray, Love: One Woman's Search for Everything Across Italy, India and Indonesia	eatprayloveonewo00gilb	1	7	20	51	81	101	233
			eatprayloveonewo2007gilb	1	2	5	5	23	21	49
			isbn_9780747585664	1	1	3	27	13	10	50
			eatprayloveonewo00eliz_0	1	2	6	5	11	22	38
			eatprayloveonewo00gilb_0	1	5	32	23	49	121	193
			eatpraylovelarge00gilb	1	1	16	5	16	49	70
32	Gladwell, Malcolm	David and Goliath: Under-dogs, Misfits, and the Art of Battling Giants	davidgoliath00malc_0	1	5	34	1	65	81	147
33	Gladwell, Malcolm	What the Dog Saw	whatdogsawessays0000unse	0	0	0	0	0	0	0
			whatdogsawothera00glad	2	11	58	49	137	158	344
34	Gladwell, Malcolm	Blink: The Power of Think-ing Without Thinking	blinkpowerofthin00glad	1	11	205	47	98	423	568
35	Gladwell, Malcolm	Tipping Point: How Little Things Can Make a Big Difference	tippingpointhowl00glad	2	4	49	58	45	122	225
			tippingpointhowl0000glad	0	0	13	0	0	26	26
36	Golding, William	Lord of the Flies	lordofflies0000unse	0	0	1	0	0	2	2
			lordofflies00gold	1	1	132	61	26	288	375
			lordofflies00gold_0	2	2	75	74	25	213	312
			williamgoldingsl00gold	1	1	3	44	18	14	76
			lordofflies00gold_1	1	4	172	64	63	383	510
			lordoffliesnovelgol00gold	1	5	378	70	90	932	1092
			lordoffliesnovel00gold	1	1	70	77	25	167	269
			lordoffliesnovel0000gold	0	0	28	0	0	54	54
37	Gordon, Jon	The Energy Bus	energybus10rules00gord	1	4	21	32	28	85	145
38	Grabenstein, Chris	Escape from Mr. Lemoncello's Library	escapefrommrlemo0000grab_x8g3	0	0	0	0	0	0	0
			escapefrommrlemo0000grab	0	0	59	0	0	223	223
39	Graham, Benjamin	The Intelligent Investor	intelligentinves00grah	0	1	22	0	5	103	108
			intelligentinves00benj	2	2	38	38	22	106	166
			harrypotterhalfb00rowl_0	1	6	12	60	38	49	147
			intelligentinves00grah_1	1	3	191	17	26	724	767
40	Grant, Adam M.	Give and Take: a Revolu-tionary Approach to Suc-cess	givetakerevoluti0000gran	1	3	8	2	25	27	54

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
41	Grisham, John	The Innocent Man: Murder and Injustice in a Small Town	innocentman0000gris	0	0	0	0	0	0	0
			innocentmanmurde00gris_0	1	3	19	6	45	60	111
			innocentmanmurde00gris	1	3	2	17	16	5	38
			innocentmanmurde00john_1	1	1	1	11	4	3	18
			innocentmanmurdegri00gris	1	2	4	41	43	24	108
			innocentman00john_1	1	1	5	20	17	14	51
			innocentmanmurde0000gris	0	0	0	0	0	0	0
			innocentmanmurdegris00gris	1	1	3	25	10	7	42
			innocentman00john	2	2	10	21	15	47	83
			innocentman00john_2	0	0	0	0	0	0	0
42	Grisham, John	Theodore Boone: Kid Lawyer	theodoreboonekid00gris	1	5	20	37	48	70	155
			isbn_9780142417225	2	3	19	32	45	104	181
43	Grisham, John	Theodore Boone: The Accused	isbn_9780525425762	1	5	13	32	61	87	180
			accused0000gris	0	0	1	0	0	2	2
44	Hall, Michael	Red: A Crayon's Story	redcrayonsstory00hall	0	2	15	0	8	119	127
45	Herman, Gail	Who was Jackie Robinson?	whowasjackierobi0000herm	0	1	20	0	2	64	66
46	Hiaasen, Carl	Scat	scat00hiaa_0	1	3	12	2	19	32	53
			scat0000hiaa	0	0	10	0	0	28	28
			scathiaa00hiaa	1	2	10	3	14	27	44
47	Hurston, Zora Neale	Their Eyes Were Watching God	theireyeswerewat00unse	1	2	19	4	21	42	67
			isbn_9780060838676	1	7	66	4	77	283	364
			theireyeswerewat1998hurs	1	5	15	47	60	69	176
			theireyeswere00hurs	2	4	37	68	55	123	246
			isbn_0252006860	0	0	32	0	0	45	45
			theireyeswerewat00hurs	1	4	10	71	61	39	171
			theireyeswerewat00hur_a4l	1	3	2	78	32	7	117
			theireyeswerewat000hurs	1	3	15	25	19	29	73
48	Jahren, Hope	Lab Girl	labgirl0000jahr	0	0	26	0	0	61	61
49	James, Marlon	A Brief History of Seven Killings	briefhistoryofse0000jame	0	2	10	0	7	39	46
50	Jance, J.A.	Judgment Call	judgmentcall00janc	0	2	2	7	15	9	31
			judgmentcallbrad0000janc	0	0	1	0	0	2	2
51	Jance, J.A.	Dance of the Bones	danceofbonesjpbe0000janc	1	4	3	1	16	12	29
52	Kalanithi, Paul	When Breath Becomes Air	whenbreathbecome0000kala	0	0	126	0	0	203	203
53	Kate, Lauren	Fallen	fallen00laur	2	7	222	46	123	444	613
			isbn_9780385738934	1	6	37	25	106	152	283
54	Kelly, Martha Hall	Lilac Girls	lilacgirlsnovel0000kell	0	0	24	0	0	53	53
55	Klay, Phil	Redeployment	redeployment0000klay	1	3	6	1	27	26	54
56	Krakauer, Jon	Into the Wild	intowildmti00jonk_tg3	1	5	63	74	62	213	349
			intowild00krak	0	0	0	0	0	0	0
			intowildmti00jonk	2	4	107	45	61	244	350
			intowild00krak_1	1	6	95	24	102	246	372
57	Kraynak, Cecie; Kraynak, Joe	Spanish All-in-One for Dummies	spanishallinonef0000kray	1	2	10	1	27	44	72
58	Kuhn, Karl F.	Basic Physics	basicphysics00kuhn	1	2	6	45	32	27	104

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
59	L'Amour, Louis	Hondo	hondo00lamo_2	1	3	25	7	66	177	250
			hondolamo00lamo	0	0	0	0	0	0	0
			hondo00lamo	0	0	0	0	0	0	0
			fourcompletenove00lamo	0	0	0	0	0	0	0
			fourcompletenove00lamorich	0	0	0	0	0	0	0
60	Larson, Edward J.	The Return of George Washington	returnofgeorgewa0000lars	0	0	2	0	0	6	6
61	Larson, Erik	Dead Wake: the Last Crossing of the Lusitania	deadwakelastcros0000lars	1	3	16	1	35	55	91
62	Lazarus, William P.; Sullivan, Mark	Comparative Religion for Dummies	isbn_9780470230657	1	2	6	18	17	23	58
63	Lehane, Dennis	World Gone By	worldgoneby0000leha	0	2	5	0	6	17	23
64	Lencioni, Patrick	The Five Dysfunctions of a Team: a Leadership Fable	fivedysfunctions00lenc	2	6	20	42	60	89	191
65	Lencioni, Patrick	The Advantage: Why Organizational Health Trumps Everything Else in Business	advantagewhyorga0000lenc	0	0	6	0	0	15	15
66	Lencioni, Patrick	Overcoming the Five Dysfunctions of a Team	overcomingfivedy00lenc_0	1	2	7	19	14	23	56
67	Lencioni, Patrick	The Three Signs of a Miserable Job: a Fable for Managers (and Their Employees)	threesignsofmise00lenc	1	2	2	11	8	4	23
68	Lencioni, Patrick	Getting Naked: a Business Fable About Shedding the Three Fears that Sabotage Client Loyalty	gettingnakedbusi00patr	1	3	2	13	19	7	39
69	Levine, Barry	All the President's Women: Donald Trump and the Making of a Predator	allpresidentswom0000levi	0	0	27	0	0	45	45

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
70	Lewis, C. S.	The Lion, the Witch, and the Wardrobe	lionwitchwardroblew00lewi	1	3	55	64	45	100	209
			lionwitchwardrobcs00lewi	1	3	42	75	77	104	256
			completechronicl0000lewi	0	0	63	0	0	338	338
			lionwitchwardrob0000lewi	0	1	35	0	1	117	118
			chroniclesofnar00lewi	0	1	66	0	6	296	302
			isbn_9780060598242	1	3	7	6	50	53	109
			chroniclesofnarn00lewi	1	2	30	4	32	152	188
			essentialcslewis00lewi	1	2	8	57	33	52	142
			lionwitchwardroblion00lewi	1	1	58	53	22	94	169
			isbn_9780060234812	1	3	13	5	40	67	112
			isbn_0060765488	1	1	77	3	22	292	317
			lionwitchwardrob00lewi	0	1	4	0	5	15	20
			lionwitchwardrob0000lewi_u5f4	0	0	0	0	0	0	0
			lionwitch00lewi	1	3	5	36	55	34	125
			isbn_9780061715051	1	1	6	5	17	30	52
			lionwitchwardroblewi00lewi	1	4	34	9	47	126	182
			lionwitchwardroblewis00lewi	1	3	32	58	49	117	224
			isbn_9780060764890	1	2	17	3	28	53	84
			isbn_9780006716778	1	1	30	5	26	122	153
			isbn_9780060765460	1	1	7	5	22	29	56
			lionwitchwardbro0000unse	0	0	1	0	0	2	2
			isbn_0590405950	2	2	269	33	20	1137	1190
			isbn_9780060890155	1	1	16	3	35	69	107
			isbn_9780007821075	0	0	4	0	0	9	9
			lionwitchwardrob00lewi_2	1	1	3	77	26	12	115
			lionwitchwardrob00lewi_0	1	2	6	7	34	26	67
71	Lewis, C. S.	The Magician's Nephew	completechronicl0000lewi	0	0	63	0	0	338	338
			magiciansnephew00lewi_0	1	1	3	4	20	8	32
			isbn_B002MAQTE2	1	3	1	4	34	6	44
			isbn_9780007821082	0	0	3	0	0	9	9
			magiciansnephew0000csle	0	0	1	0	0	1	1
			magiciansnephew0000lewi	0	0	5	0	0	18	18
			magiciansnephew01lewi	1	2	5	5	18	11	34
			magiciansnephewc00csle	1	1	16	48	24	66	138
			magiciansnephew00lewi	1	3	38	75	54	194	323
			magiciansnephewlewi00lewi	1	2	10	55	50	29	134
			chroniclesofnar00lewi	0	1	66	0	6	296	302
			chroniclesofnarn00lewi_0	1	1	7	7	25	25	57
			isbn_9780060598242	1	3	7	6	50	53	109
			chroniclesofnarn00lewi	1	2	30	4	32	152	188
			magiciansnephewr00csle	1	2	22	4	46	54	104
72	Lu, Marie	Legend	legend00luma	1	8	30	11	93	91	195
73	Mandel, Emily St. John	Station Eleven	stationeleven0000mand	0	0	88	0	0	138	138
			stationelevennov0000mand	1	4	108	2	42	184	228
74	Martin, George R. R.	A Dance with Dragons	dancewithdragons0000mart_l7e4	0	0	0	0	0	0	0
			dancewithdragons00geor	0	0	11	0	0	36	36
			dancewithdragons00mart	1	8	25	14	76	121	211
			dancewithdragons0000mart	0	0	1	0	0	2	2
			dancewithdragons0000mart_z7e8	0	0	0	0	0	0	0
75	McCarthy, Cormac	The Road	road00mcca	2	7	96	60	74	365	499
			roadmovietieined00corm	1	3	13	39	32	62	133
			road0000mcca	0	0	0	0	0	0	0
			roadmovietieined00corm_0	1	3	43	32	49	139	220
			unset0000unse_f0a5	1	9	40	3	98	202	303
76	Miller, Donalyn	The Book Whisperer	bookwhispererawa0000mill	0	0	3	0	0	9	9
			bookwhispererawa00mill	1	4	6	19	15	20	54

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans Before 2019	2019	2020	Total Loans Before 2019	2019	2020	Overall
77	Morgenstern, Erin	The Night Circus	nightcircus00erin	1	5	44	26	68	192	286
			nightcircusnovel00morg	1	4	34	10	49	128	187
78	Morrison, Toni	Song of Solomon	songofsolomon0000morr	0	0	23	0	0	88	88
			songsolomon00morr_536	0	0	0	0	0	0	0
			songofsolomonmorr00morr	0	0	0	0	0	0	0
			songofsolomonmorris00morr	0	0	0	0	0	0	0
			songofsolomon00morr_0	2	7	108	58	85	271	414
			songofsolomon0000morr_har5	0	0	8	0	0	22	22
			songofsolomon00morr	0	0	0	0	0	0	0
			songofsolomon00morrrich	0	0	0	0	0	0	0
			songofsolomon00toni_0	1	2	7	24	20	24	68
			songofsolomonsig00ton_128	1	1	6	26	13	18	57
			songofsolomon000morr	0	0	0	0	0	0	0
			songofsolomon00toni	0	0	0	0	0	0	0
			songofsolomontar00morr	0	0	0	0	0	0	0
79	Morrison, Toni	The Bluest Eye	bluesteye00morr_1	1	3	4	9	29	20	58
			bluesteye00morr_0	2	2	37	55	45	129	229
			bluesteye00toni	0	0	0	0	0	0	0
			bluesteye1994morr	0	0	0	0	0	0	0
			bluesteyenovel00morr_0	1	6	16	47	68	65	180
			bluesteye00morr_2	1	1	11	6	24	36	66
			bluesteyetonimor00morr	1	2	20	46	28	84	158
			bluesteyenovel00morr	0	1	15	0	69	57	126
			bluesteyenovel0000morr	0	0	93	0	0	405	405
			sparknotesbluest00toni	1	1	2	17	10	8	35
80	Nelson, Marilyn	How I Discovered Poetry	howidiscoveredpo0000nels	0	0	2	0	0	10	10
81	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Too Many Tutus	fancynancytooman0000ocon	1	3	14	2	42	140	184
82	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Super Secret Surprise Party	fancynancysupers0000ocon	0	1	8	0	2	55	57
83	Palmer, Parker J.	Let Your Life Speak: Listening for the Voice of Vocation	letyourlifespeak00palm	1	5	12	35	49	46	130
			letyourlifespeak2000palm	1	4	6	30	30	27	87
84	Park, Barbara	Junie B., First Grader: Boss of Lunch	juniebfirstgrad00park	1	2	3	2	12	11	25
			juniebfirstgrade0000park_w5w4	0	2	6	0	24	48	72
			juniebfirstgrabos00park	1	1	3	37	16	13	66
			juniebfirstgrade0000park_k1f0	0	0	3	0	0	21	21
			juniebfirstbosso00park	0	1	8	0	3	42	45
			juniebfirstgrade00barb	1	2	1	14	6	2	22
85	Patchett, Ann	Commonwealth	commonwealth0000patc	0	0	0	0	0	0	0
			commonwealthnove0000patc	0	0	11	0	0	44	44
86	Patterson, James	Middle School, the Worst Years of My Life	middleschoolwors0000patt	0	0	43	0	0	192	192
			isbn_9780316101691	1	7	26	18	73	131	222
			middleschoolwors00patt	1	6	0	26	21	0	47
87	Patterson, James	Invisible	invisible0000patt	0	0	0	0	0	0	0
			invisible0000patt_t3s3	0	0	0	0	0	0	0
			isbn_9780316405348	1	3	4	2	47	25	74
88	Patterson, James; Grabenstein, Chris	I Funny: A Middle School Story	ifunny0000patt_w7e5	0	1	18	0	2	88	90
			ifunny0000patt	1	4	17	4	53	136	193
			ifunny10000patt	0	0	0	0	0	0	0
89	Peirce, Lincoln	Big Nate: Mr. Popularity	isbn_9780062087003	1	4	98	2	70	862	934
90	Peirce, Lincoln	Big Nate: Genius Mode	isbn_9780062086983	1	3	134	7	57	1045	1109

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans Before 2019	2019	2020	Total Loans Before 2019	2019	2020	Overall
91	Peirce, Lincoln	Big Nate Goes for Broke	bignategoesforbr0000peir	0	0	0	0	0	0	0
			bignategoesforbr00peir	1	4	62	11	79	581	671
92	Pinker, Steven	The Better Angels of Our Nature: Why Violence has Declined	betterangelsofou0000pink	0	0	9	0	0	30	30
			betterangelsofou00pink	1	7	11	9	40	50	99
93	Plath, Sylvia	The Bell Jar	belljarokat00plat	1	2	7	74	40	29	143
			belljar00sylv	1	3	6	54	51	29	134
			belljarplat00plat	1	1	45	60	26	180	266
			belljar00platrich	1	1	31	72	27	55	154
			belljar00plat	1	1	29	54	19	97	170
			belljar0000unse	0	0	15	0	0	50	50
			belljar00plat_1	1	1	11	4	21	39	64
			belljar00plat_0	1	1	4	5	27	21	53
			belljarps00sylv	1	3	38	6	41	165	212
			belljar000plat	2	1	12	68	18	40	126
94	Pratchett, Terry	Night Watch	nightwatch00prat_0	1	1	12	3	22	48	73
95	Redwine, C. J.	Defiance	defiance00redw	0	2	2	2	9	6	17
96	Ritchhart, Ron	Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners	makingthinkingvi0000unse	0	0	1	0	0	2	2
97	Rohr, Richard	Falling Upward: a Spirituality for the Two Halves of Life	fallingupwardspi00rohr	2	7	14	42	75	56	173
98	Salinger, J. D.	The Catcher in the Rye	catcherinrye00salirich	1	1	20	58	16	79	153
			catcye00jdsa	1	2	153	34	22	689	745
			catcherinrye0000sali	0	3	134	0	9	517	526
			catcherinryesalig00sali	1	1	16	60	25	63	148
			catcherinrye00bant	1	1	10	51	21	33	105
			catcherinrye0000sali_u5n7	0	0	162	0	0	316	316
			catcherinrye0000sali_n7t7	0	0	184	0	0	449	449
			catcherinryesali00sali	1	1	5	56	24	20	100
99	Salinger, J. D.	Nine Stories	ninestories0000sali	0	0	11	0	0	36	36
			ninestories0002sali	0	1	17	0	4	64	68
100	Salinger, J. D.	Franny and Zooey	frannyzooey00salirich	1	2	31	53	21	133	207
101	Salinger, J. D.	Raise High the Roof Beam, Carpenters, and Seymour: An Introduction	raisehighroofbea0000sali_l9y4	0	2	8	0	6	21	27
			raisehighroofbea0000sali_o4a4	0	0	1	0	0	4	4
			raisehighroofbea00sali	1	1	7	52	20	25	97
			raisehighroofbea0000sali	0	1	0	0	2	0	2
102	Sandford, John	Phantom Prey	phantomprey00john_0	0	1	3	22	11	11	44
			phantomprey000sand	0	3	3	40	30	19	89
			phantomprey00sand	1	3	3	33	27	18	78
103	Schaefer, Charles E.; DiGeronimo, Theresa Foy	Ages and Stages: a Parent's Guide to Normal Childhood Development	agesstagesparent00char	1	1	8	10	6	21	37
104	Schneider, Robyn	Extraordinary Means	extraordinarymea0000schn	1	3	8	1	27	28	56
105	Semple, Maria	Today Will Be Different	todaywillbediffe0000semp	0	0	2	0	0	9	9
			todaywillbediffe0000semp_m6e9	0	0	3	0	0	5	5

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans Before 2019	2019	2020	Total Loans Before 2019	2019	2020	Overall
106	Silberman, Steve	Neurotribes: the Legacy of Autism and the Future of Neurodiversity	neurotribeslegac0000silb	0	2	9	0	8	36	44
107	Snicket, Lemony	Who Could That Be at This Hour?	whocouldthatbeat0000snic_s5w5	0	0	0	0	0	0	0
			whocouldthatbeat0000snic	1	1	3	1	10	13	24
			whocouldthatbeat00snic	1	5	12	26	40	62	128
			whocouldthatbeat0000snic_r4z5	0	0	0	0	0	0	0
108	Snicket, Lemony	When Did You See Her Last?	whendidyouseeher0000snic_p9k1	0	0	0	0	0	0	0
			whendidyouseeher0000snic	0	0	4	0	0	17	17
			isbn_9780316123051	1	2	6	4	27	40	71
109	Stewart, Trenton Lee	The Extraordinary Education of Nicholas Benedict	extraordinaryedu0000stew	0	0	2	0	0	2	2
			isbn_9780316176194	1	5	9	23	42	48	113
110	Stewart, Trenton Lee	The Mysterious Benedict Society	mysteriousbenedi00tren	1	5	16	49	62	54	165
			mysteriousbenedi00stew	2	7	74	48	70	312	430
111	Stewart, Trenton Lee	The Mysterious Benedict Society and the Perilous Journey	isbn_9780316036733	2	5	15	33	36	61	130
			mysteriousbenedi00stew_0	1	5	17	38	34	79	151
112	Stone, Douglas	Thanks for the Feedback: the Science and Art of Receiving Feedback (Even When it is Off-Base, Unfair, Poorly Delivered, and Frankly, You're Not in the Mood)	thanksforfeedbac0000ston	0	2	6	0	6	20	26
113	Strout, Elizabeth	The Burgess Boys	burgessboysnovel00eliz	1	3	4	2	14	14	30
114	Tahir, Sabaa	An Ember in the Ashes	isbn_9781595148032	1	4	25	1	46	141	188
115	Turnage, Sheila	Three Times Lucky	threetimeslucky0000turn_n0j9	0	1	3	0	1	6	7
			threetimeslucky0000turn_e7y3	0	0	14	0	0	49	49
			threetimeslucky0000turn	0	1	6	6	13	20	39
116	van der Kolk, Bessel A.	The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma	isbn_9780143127741	0	0	159	0	0	479	479
117	Wiesel, Elie	Open Heart	openheart0000wies	0	1	2	0	1	6	7
118	Wilder, Laura Ingalls	Little House in the Big Woods	isbn_9780812420579	0	0	3	0	0	5	5
			littlehouseinbig0000wild	0	0	7	0	0	23	23
			littlehouseinbig00wild_1	1	1	27	6	22	69	97
			littlehouseinbig00scho	1	5	66	82	103	243	428
			littlehouseinbig00wild_0	1	3	7	8	35	19	62
			isbn_0590085247	1	5	24	42	67	93	202
			littlehouseinbig00wild_3	1	3	5	6	28	22	56
			littlehouseinbig00wild	0	2	12	0	8	54	62
			littlehouseinbig0000wild_c4z6	0	0	1	0	0	2	2
			littlehouseinbig00wild_6	1	1	27	4	29	107	140
			littlehousetreas00wild	0	1	10	0	5	47	52
119	Wilder, Laura Ingalls	Little House on the Prairie	littlehouseonpra00wild_3	1	1	11	6	23	34	63
			littlehouseonpra00wild_2	1	5	30	9	72	159	240
			littlehouseonpra00wild	2	2	44	85	33	218	336
			littlehouseonpra00wild_0	1	3	14	7	45	43	95
			littlehouseonpra0000unse	0	0	7	0	0	20	20
			littlehouseonpra00wild_1	1	1	4	7	21	7	35
			littlehousetreas00wild	0	1	10	0	5	47	52

WIS	Author	Title	Scan Identifier	Maximum Actual Concurrent Loans			Total Loans			
				Before 2019	2019	2020	Before 2019	2019	2020	Overall
120	Wilder, Laura Ingalls	Farmer Boy	farmerboylittleh00wild_0	1	1	4	74	15	15	104
			farmerboy00wild	1	1	22	61	31	89	181
			farmerboy00wild_0	1	2	10	5	34	45	84
			farmerboy0000wild	0	1	1	0	2	8	10
			farmerboylittleh00wild	2	6	21	85	108	110	303
121	Winspear, Jacqueline	A Dangerous Place	dangerousplaceno0000wins	1	3	6	1	23	29	53
122	Winspear, Jacqueline	Journey to Munich	journeytomunichm0000wins	0	0	0	0	0	0	0
			journeytomunichn0000wins	0	0	6	0	0	23	23
123	Winspear, Jacqueline	Elegy for Eddie	elegyforeddie00wins	1	3	7	2	18	28	48
			elegyforeddie0000wins	0	0	0	0	0	0	0
124	Woofenden, Ian	Wind Power for Dummies	isbn_9780470496374	0	1	1	5	8	3	16
125	Wouk, Herman	The Winds of War	windsof00wouk	1	1	5	10	18	15	43
			windsofwar00hwou	0	1	3	21	9	11	41
			windsofwar00wouk	0	2	5	44	18	16	78
			windsofwarnove00wouk	1	1	3	57	14	11	82
			windsofwarnovel00wouk	0	1	3	25	9	5	39
			windsofwar00herm_1	1	2	3	26	15	9	50
			windsofwarnovel00herm	0	1	1	25	8	2	35
			windsofwar00wouk_0	1	2	4	31	18	17	66
126	Wouk, Herman	The Caine Mutiny: A Novel of World War II	cainemutinynovel00woukrich	0	1	2	20	15	5	40
			cainemutinynovel0000wouk	0	1	0	0	2	0	2
			cainemutinynovel00wouk	1	1	2	50	18	9	77
			cainemutinynovel00wouk_1	1	1	5	6	18	21	45
			cainemutinywo00wouk	2	2	3	39	26	14	79
			cainemutiny00wouk	1	1	5	32	14	20	66
			cainemutiny00herm	0	1	2	25	9	4	38
			cainemutiny0000herm	0	0	1	0	0	1	1
127	Zuckerman, Gregory	The Man Who Solved the Market	manwhosolvedmark0000zuck	0	0	113	0	0	129	129

Exhibit T4: Total loans for each Work in Suit, from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data). Data are divided into three periods: prior to 2019, 2019, and 2020–obtained by summing across all Scans that match that Work in Suit, with the number of such scans also specified.

				Total Loans		
WIS	Author	Title	Scans	Before 2019	2019	2020
1	Ahern, Cecelia	PS, I Love You	9	91	95	76
2	Albertalli, Becky	Simon vs. the Homo Sapiens Agenda	1	0	16	483
3	Applegate, Katherine	The One and Only Ivan	2	0	0	923
4	Bacigalupi, Paolo	Ship Breaker	1	34	42	56
5	Brown, Brené	Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead	1	0	0	120
6	Brown, Pierce	Golden Son	1	0	0	27
7	Brown, Sandra	Best Kept Secrets	5	273	185	108
8	Brown, Sandra	The Witness	8	252	147	90
9	Bryson, Bill	A Short History of Nearly Everything	5	121	218	391
10	Bryson, Bill	A Short History of Nearly Everything: Special Illustrated Edition	1	27	34	31
11	Cabot, Meg	The Bride Wore Size 12	2	1	38	17
12	Carter, Les	Enough About You, Let's Talk About Me: How to Recognize and Manage the Narcissists in Your Life	2	36	42	21
13	Catling, Patrick Skene	The Chocolate Touch	6	177	116	549
14	Cisneros, Sandra	The House on Mango Street	3	117	220	640
15	Conti, Peter; Harris, Peter	Commercial Real Estate Investing for Dummies	1	0	2	7
16	Corey, James S.A.	Leviathan Wakes	1	0	0	148
17	Corey, James S.A.	Caliban's War	1	11	60	105
18	Crossan, Sarah	Breathe	1	0	1	14
19	Crossan, Sarah	Resist	1	1	6	12
20	Danforth, Emily M.	The Miseducation of Cameron Post	1	26	37	179
21	Demuth, Patricia	Who is Bill Gates?	1	0	0	37

WIS	Author	Title	Scans	Before 2019	2019	2020
				Total Loans		
22	Dugoni, Robert	The Jury Master	4	22	26	15
23	Epstein, David J.	The Sports Gene: Inside the Science of Extraordinary Athletic Performance	1	0	4	31
24	Evanovich, Janet	Foul Play	1	3	18	14
25	Fisher, Kenneth L.	The Only Three Questions that Still Count: Investing by Knowing What Others Don't	2	0	0	3
26	Fitzpatrick, Huntley	My Life Next Door	1	0	0	129
27	Flynn, Gillian	Gone Girl	5	13	124	477
28	Forman, Gayle	If I Stay	4	86	146	241
29	Gardner, Lisa	Fear Nothing	2	1	56	62
30	Giddings, Anita; Clifton, Sherry Stone	Oil Painting for Dummies	3	22	59	36
31	Gilbert, Elizabeth	Eat, Pray, Love: One Woman's Search for Everything Across Italy, India and Indonesia	6	116	193	324
32	Gladwell, Malcolm	David and Goliath: Underdogs, Misfits, and the Art of Battling Giants	1	1	65	81
33	Gladwell, Malcolm	What the Dog Saw	2	49	137	158
34	Gladwell, Malcolm	Blink: The Power of Thinking Without Thinking	1	47	98	423
35	Gladwell, Malcolm	Tipping Point: How Little Things Can Make a Big Difference	2	58	45	148
36	Golding, William	Lord of the Flies	8	390	247	2053
37	Gordon, Jon	The Energy Bus	1	32	28	85
38	Grabenstein, Chris	Escape from Mr. Lemoncello's Library	2	0	0	223
39	Graham, Benjamin	The Intelligent Investor	4	115	91	982
40	Grant, Adam M.	Give and Take: a Revolutionary Approach to Success	1	2	25	27
41	Grisham, John	The Innocent Man: Murder and Injustice in a Small Town	10	141	150	160
42	Grisham, John	Theodore Boone: Kid Lawyer	2	69	93	174
43	Grisham, John	Theodore Boone: The Accused	2	32	61	89

WIS	Author	Title	Scans	Total Loans Before 2019	2019	2020
44	Hall, Michael	Red: A Crayon's Story	1	0	8	119
45	Herman, Gail	Who was Jackie Robinson?	1	0	2	64
46	Hiaasen, Carl	Scat	3	5	33	87
47	Hurston, Zora Neale	Their Eyes Were Watching God	8	297	325	637
48	Jahren, Hope	Lab Girl	1	0	0	61
49	James, Marlon	A Brief History of Seven Killings	1	0	7	39
50	Jance, J.A.	Judgment Call	2	7	15	11
51	Jance, J.A.	Dance of the Bones	1	1	16	12
52	Kalanithi, Paul	When Breath Becomes Air	1	0	0	203
53	Kate, Lauren	Fallen	2	71	229	596
54	Kelly, Martha Hall	Lilac Girls	1	0	0	53
55	Klay, Phil	Redeployment	1	1	27	26
56	Krakauer, Jon	Into the Wild	4	143	225	703
57	Kraynak, Cecie; Kraynak, Joe	Spanish All-in-One for Dummies	1	1	27	44
58	Kuhn, Karl F.	Basic Physics	1	45	32	27
59	L'Amour, Louis	Hondo	5	7	66	177
60	Larson, Edward J.	The Return of George Washington	1	0	0	6
61	Larson, Erik	Dead Wake: the Last Crossing of the Lusitania	1	1	35	55
62	Lazarus, William P.; Sullivan, Mark	Comparative Religion for Dummies	1	18	17	23
63	Lehane, Dennis	World Gone By	1	0	6	17
64	Lencioni, Patrick	The Five Dysfunctions of a Team: a Leadership Fable	1	42	60	89
65	Lencioni, Patrick	The Advantage: Why Organizational Health Trumps Everything Else in Business	1	0	0	15
66	Lencioni, Patrick	Overcoming the Five Dysfunctions of a Team	1	19	14	23
67	Lencioni, Patrick	The Three Signs of a Miserable Job: a Fable for Managers (and Their Employees)	1	11	8	4

WIS	Author	Title	Scans	Before 2019	2019	2020
				Total Loans		
68	Lencioni, Patrick	Getting Naked: a Business Fable About Shedding the Three Fears that Sabotage Client Loyalty	1	13	19	7
69	Levine, Barry	All the President's Women: Donald Trump and the Making of a Predator	1	0	0	45
70	Lewis, C. S.	The Lion, the Witch, and the Wardrobe	26	508	692	3446
71	Lewis, C. S.	The Magician's Nephew	15	212	359	1260
72	Lu, Marie	Legend	1	11	93	91
73	Mandel, Emily St. John	Station Eleven	2	2	42	322
74	Martin, George R. R.	A Dance with Dragons	5	14	76	159
75	McCarthy, Cormac	The Road	5	134	253	768
76	Miller, Donalyn	The Book Whisperer	2	19	15	29
77	Morgenstern, Erin	The Night Circus	2	36	117	320
78	Morrison, Toni	Song of Solomon	13	108	118	423
79	Morrison, Toni	The Bluest Eye	10	180	273	804
80	Nelson, Marilyn	How I Discovered Poetry	1	0	0	10
81	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Too Many Tutus	1	2	42	140
82	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Super Secret Surprise Party	1	0	2	55
83	Palmer, Parker J.	Let Your Life Speak: Listening for the Voice of Vocation	2	65	79	73
84	Park, Barbara	Junie B., First Grader: Boss of Lunch	6	53	61	137
85	Patchett, Ann	Commonwealth	2	0	0	44
86	Patterson, James	Middle School, the Worst Years of My Life	3	44	94	323
87	Patterson, James	Invisible	3	2	47	25
88	Patterson, James; Grabenstein, Chris	I Funny: A Middle School Story	3	4	55	224

WIS	Author	Title	Scans	Total Loans Before 2019	2019	2020
89	Peirce, Lincoln	Big Nate: Mr. Popularity	1	2	70	862
90	Peirce, Lincoln	Big Nate: Genius Mode	1	7	57	1045
91	Peirce, Lincoln	Big Nate Goes for Broke	2	11	79	581
92	Pinker, Steven	The Better Angels of Our Nature: Why Violence has Declined	2	9	40	80
93	Plath, Sylvia	The Bell Jar	10	397	270	705
94	Pratchett, Terry	Night Watch	1	3	22	48
95	Redwine, C. J.	Defiance	1	2	9	6
96	Ritchhart, Ron	Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners	1	0	0	2
97	Rohr, Richard	Falling Upward: a Spirituality for the Two Halves of Life	1	42	75	56
98	Salinger, J. D.	The Catcher in the Rye	8	259	117	2166
99	Salinger, J. D.	Nine Stories	2	0	4	100
100	Salinger, J. D.	Franny and Zooey	1	53	21	133
101	Salinger, J. D.	Raise High the Roof Beam, Carpenters, and Seymour: An Introduction	4	52	28	50
102	Sandford, John	Phantom Prey	3	95	68	48
103	Schaefer, Charles E.; DiGeronimo, Theresa Foy	Ages and Stages: a Parent's Guide to Normal Childhood Development	1	10	6	21
104	Schneider, Robyn	Extraordinary Means	1	1	27	28
105	Semple, Maria	Today Will Be Different	2	0	0	14
106	Silberman, Steve	Neurotribes: the Legacy of Autism and the Future of Neurodiversity	1	0	8	36
107	Snicket, Lemony	Who Could That Be at This Hour?	4	27	50	75
108	Snicket, Lemony	When Did You See Her Last?	3	4	27	57
109	Stewart, Trenton Lee	The Extraordinary Education of Nicholas Benedict	2	23	42	50

WIS	Author	Title	Scans	Total Loans Before 2019	2019	2020
110	Stewart, Trenton Lee	The Mysterious Benedict Society	2	97	132	366
111	Stewart, Trenton Lee	The Mysterious Benedict Society and the Perilous Journey	2	71	70	140
112	Stone, Douglas	Thanks for the Feedback: the Science and Art of Receiving Feedback (Even When it is Off-Base, Unfair, Poorly Delivered, and Frankly, You're Not in the Mood)	1	0	6	20
113	Strout, Elizabeth	The Burgess Boys	1	2	14	14
114	Tahir, Sabaa	An Ember in the Ashes	1	1	46	141
115	Turnage, Sheila	Three Times Lucky	3	6	14	75
116	van der Kolk, Bessel A.	The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma	1	0	0	479
117	Wiesel, Elie	Open Heart	1	0	1	6
118	Wilder, Laura Ingalls	Little House in the Big Woods	11	148	297	684
119	Wilder, Laura Ingalls	Little House on the Prairie	7	114	199	528
120	Wilder, Laura Ingalls	Farmer Boy	5	225	190	267
121	Winspear, Jacqueline	A Dangerous Place	1	1	23	29
122	Winspear, Jacqueline	Journey to Munich	2	0	0	23
123	Winspear, Jacqueline	Elegy for Eddie	2	2	18	28
124	Woofenden, Ian	Wind Power for Dummies	1	5	8	3
125	Wouk, Herman	The Winds of War	8	239	109	86
126	Wouk, Herman	The Caine Mutiny: A Novel of World War II	8	172	102	74
127	Zuckerman, Gregory	The Man Who Solved the Market	1	0	0	129

Exhibit T5: Total loans for each Work in Suit, during the period from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data). Numbers are obtained by summing across all Scans that match that Work in Suit, with the number of such scans also specified.

WIS	Author	Title	Scans	Total Loans
1	Ahern, Cecelia	PS, I Love You	9	262
2	Albertalli, Becky	Simon vs. the Homo Sapiens Agenda	1	499
3	Applegate, Katherine	The One and Only Ivan	2	923
4	Bacigalupi, Paolo	Ship Breaker	1	132
5	Brown, Brené	Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead	1	120
6	Brown, Pierce	Golden Son	1	27
7	Brown, Sandra	Best Kept Secrets	5	566
8	Brown, Sandra	The Witness	8	489
9	Bryson, Bill	A Short History of Nearly Everything	5	730
10	Bryson, Bill	A Short History of Nearly Everything: Special Illustrated Edition	1	92
11	Cabot, Meg	The Bride Wore Size 12	2	56
12	Carter, Les	Enough About You, Let's Talk About Me: How to Recognize and Manage the Narcissists in Your Life	2	99
13	Catling, Patrick Skene	The Chocolate Touch	6	842
14	Cisneros, Sandra	The House on Mango Street	3	977
15	Conti, Peter; Harris, Peter	Commercial Real Estate Investing for Dummies	1	9
16	Corey, James S.A.	Leviathan Wakes	1	148
17	Corey, James S.A.	Caliban's War	1	176
18	Crossan, Sarah	Breathe	1	15
19	Crossan, Sarah	Resist	1	19
20	Danforth, Emily M.	The Miseducation of Cameron Post	1	242
21	Demuth, Patricia	Who is Bill Gates?	1	37

WIS	Author	Title	Scans	Total Loans
22	Dugoni, Robert	The Jury Master	4	63
23	Epstein, David J.	The Sports Gene: Inside the Science of Extraordinary Athletic Performance	1	35
24	Evanovich, Janet	Foul Play	1	35
25	Fisher, Kenneth L.	The Only Three Questions that Still Count: Investing by Knowing What Others Don't	2	3
26	Fitzpatrick, Huntley	My Life Next Door	1	129
27	Flynn, Gillian	Gone Girl	5	614
28	Forman, Gayle	If I Stay	4	473
29	Gardner, Lisa	Fear Nothing	2	119
30	Giddings, Anita; Clifton, Sherry Stone	Oil Painting for Dummies	3	117
31	Gilbert, Elizabeth	Eat, Pray, Love: One Woman's Search for Everything Across Italy, India and Indonesia	6	633
32	Gladwell, Malcolm	David and Goliath: Underdogs, Misfits, and the Art of Battling Giants	1	147
33	Gladwell, Malcolm	What the Dog Saw	2	344
34	Gladwell, Malcolm	Blink: The Power of Thinking Without Thinking	1	568
35	Gladwell, Malcolm	Tipping Point: How Little Things Can Make a Big Difference	2	251
36	Golding, William	Lord of the Flies	8	2690
37	Gordon, Jon	The Energy Bus	1	145
38	Grabenstein, Chris	Escape from Mr. Lemoncello's Library	2	223
39	Graham, Benjamin	The Intelligent Investor	4	1188
40	Grant, Adam M.	Give and Take: a Revolutionary Approach to Success	1	54
41	Grisham, John	The Innocent Man: Murder and Injustice in a Small Town	10	451
42	Grisham, John	Theodore Boone: Kid Lawyer	2	336
43	Grisham, John	Theodore Boone: The Accused	2	182

WIS	Author	Title	Scans	Total Loans
44	Hall, Michael	Red: A Crayon's Story	1	127
45	Herman, Gail	Who was Jackie Robinson?	1	66
46	Hiaasen, Carl	Scat	3	125
47	Hurston, Zora Neale	Their Eyes Were Watching God	8	1259
48	Jahren, Hope	Lab Girl	1	61
49	James, Marlon	A Brief History of Seven Killings	1	46
50	Jance, J.A.	Judgment Call	2	33
51	Jance, J.A.	Dance of the Bones	1	29
52	Kalanithi, Paul	When Breath Becomes Air	1	203
53	Kate, Lauren	Fallen	2	896
54	Kelly, Martha Hall	Lilac Girls	1	53
55	Klay, Phil	Redeployment	1	54
56	Krakauer, Jon	Into the Wild	4	1071
57	Kraynak, Cecie; Kraynak, Joe	Spanish All-in-One for Dummies	1	72
58	Kuhn, Karl F.	Basic Physics	1	104
59	L'Amour, Louis	Hondo	5	250
60	Larson, Edward J.	The Return of George Washington	1	6
61	Larson, Erik	Dead Wake: the Last Crossing of the Lusitania	1	91
62	Lazarus, William P.; Sullivan, Mark	Comparative Religion for Dummies	1	58
63	Lehane, Dennis	World Gone By	1	23
64	Lencioni, Patrick	The Five Dysfunctions of a Team: a Leadership Fable	1	191
65	Lencioni, Patrick	The Advantage: Why Organizational Health Trumps Everything Else in Business	1	15
66	Lencioni, Patrick	Overcoming the Five Dysfunctions of a Team	1	56
67	Lencioni, Patrick	The Three Signs of a Miserable Job: a Fable for Managers (and Their Employees)	1	23

WIS	Author	Title	Scans	Total Loans
68	Lencioni, Patrick	Getting Naked: a Business Fable About Shedding the Three Fears that Sabotage Client Loyalty	1	39
69	Levine, Barry	All the President's Women: Donald Trump and the Making of a Predator	1	45
70	Lewis, C. S.	The Lion, the Witch, and the Wardrobe	26	4646
71	Lewis, C. S.	The Magician's Nephew	15	1831
72	Lu, Marie	Legend	1	195
73	Mandel, Emily St. John	Station Eleven	2	366
74	Martin, George R. R.	A Dance with Dragons	5	249
75	McCarthy, Cormac	The Road	5	1155
76	Miller, Donalyn	The Book Whisperer	2	63
77	Morgenstern, Erin	The Night Circus	2	473
78	Morrison, Toni	Song of Solomon	13	649
79	Morrison, Toni	The Bluest Eye	10	1257
80	Nelson, Marilyn	How I Discovered Poetry	1	10
81	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Too Many Tutus	1	184
82	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Super Secret Surprise Party	1	57
83	Palmer, Parker J.	Let Your Life Speak: Listening for the Voice of Vocation	2	217
84	Park, Barbara	Junie B., First Grader: Boss of Lunch	6	251
85	Patchett, Ann	Commonwealth	2	44
86	Patterson, James	Middle School, the Worst Years of My Life	3	461
87	Patterson, James	Invisible	3	74
88	Patterson, James; Grabenstein, Chris	I Funny: A Middle School Story	3	283

WIS	Author	Title	Scans	Total Loans
89	Peirce, Lincoln	Big Nate: Mr. Popularity	1	934
90	Peirce, Lincoln	Big Nate: Genius Mode	1	1109
91	Peirce, Lincoln	Big Nate Goes for Broke	2	671
92	Pinker, Steven	The Better Angels of Our Nature: Why Violence has Declined	2	129
93	Plath, Sylvia	The Bell Jar	10	1372
94	Pratchett, Terry	Night Watch	1	73
95	Redwine, C. J.	Defiance	1	17
96	Ritchhart, Ron	Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners	1	2
97	Rohr, Richard	Falling Upward: a Spirituality for the Two Halves of Life	1	173
98	Salinger, J. D.	The Catcher in the Rye	8	2542
99	Salinger, J. D.	Nine Stories	2	104
100	Salinger, J. D.	Franny and Zooey	1	207
101	Salinger, J. D.	Raise High the Roof Beam, Carpenters, and Seymour: An Introduction	4	130
102	Sandford, John	Phantom Prey	3	211
103	Schaefer, Charles E.; DiGeronimo, Theresa Foy	Ages and Stages: a Parent's Guide to Normal Childhood Development	1	37
104	Schneider, Robyn	Extraordinary Means	1	56
105	Semple, Maria	Today Will Be Different	2	14
106	Silberman, Steve	Neurotribes: the Legacy of Autism and the Future of Neurodiversity	1	44
107	Snicket, Lemony	Who Could That Be at This Hour?	4	152
108	Snicket, Lemony	When Did You See Her Last?	3	88
109	Stewart, Trenton Lee	The Extraordinary Education of Nicholas Benedict	2	115

WIS	Author	Title	Scans	Total Loans
110	Stewart, Trenton Lee	The Mysterious Benedict Society	2	595
111	Stewart, Trenton Lee	The Mysterious Benedict Society and the Perilous Journey	2	281
112	Stone, Douglas	Thanks for the Feedback: the Science and Art of Receiving Feedback (Even When it is Off-Base, Unfair, Poorly Delivered, and Frankly, You're Not in the Mood)	1	26
113	Strout, Elizabeth	The Burgess Boys	1	30
114	Tahir, Sabaa	An Ember in the Ashes	1	188
115	Turnage, Sheila	Three Times Lucky	3	95
116	van der Kolk, Bessel A.	The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma	1	479
117	Wiesel, Elie	Open Heart	1	7
118	Wilder, Laura Ingalls	Little House in the Big Woods	11	1129
119	Wilder, Laura Ingalls	Little House on the Prairie	7	841
120	Wilder, Laura Ingalls	Farmer Boy	5	682
121	Winspear, Jacqueline	A Dangerous Place	1	53
122	Winspear, Jacqueline	Journey to Munich	2	23
123	Winspear, Jacqueline	Elegy for Eddie	2	48
124	Woofenden, Ian	Wind Power for Dummies	1	16
125	Wouk, Herman	The Winds of War	8	434
126	Wouk, Herman	The Caine Mutiny: A Novel of World War II	8	348
127	Zuckerman, Gregory	The Man Who Solved the Market	1	129

Exhibit T6: A closer look at 2020: Total loans for each Work in Suit before, during, and after the National Emergency Library period–obtained by summing across all Scans that match that Work in Suit. The National Emergency Library period is set to be March 17, 2020 (representing a one-week buffer before Internet Archive's announced start date of March 24, 2020) to June 17, 2020.

WIS	Author	Title	Scans	Before NEL	During NEL	After NEL
1	Ahern, Cecelia	PS, I Love You	9	19	57	0
2	Albertalli, Becky	Simon vs. the Homo Sapiens Agenda	1	20	463	0
3	Applegate, Katherine	The One and Only Ivan	2	7	916	0
4	Bacigalupi, Paolo	Ship Breaker	1	15	41	0
5	Brown, Brené	Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead	1	10	110	0
6	Brown, Pierce	Golden Son	1	0	27	0
7	Brown, Sandra	Best Kept Secrets	5	26	81	1
8	Brown, Sandra	The Witness	8	29	61	0
9	Bryson, Bill	A Short History of Nearly Everything	5	90	299	2
10	Bryson, Bill	A Short History of Nearly Everything: Special Illustrated Edition	1	8	23	0
11	Cabot, Meg	The Bride Wore Size 12	2	4	13	0
12	Carter, Les	Enough About You, Let's Talk About Me: How to Recognize and Manage the Narcissists in Your Life	2	9	12	0
13	Catling, Patrick Skene	The Chocolate Touch	6	29	520	0
14	Cisneros, Sandra	The House on Mango Street	3	86	554	0
15	Conti, Peter; Harris, Peter	Commercial Real Estate Investing for Dummies	1	2	5	0
16	Corey, James S.A.	Leviathan Wakes	1	11	137	0
17	Corey, James S.A.	Caliban's War	1	25	80	0
18	Crossan, Sarah	Breathe	1	3	11	0
19	Crossan, Sarah	Resist	1	0	12	0

WIS	Author	Title	Scans	Total Loans Before NEL	During NEL	After NEL
20	Danforth, Emily M.	The Miseducation of Cameron Post	1	36	143	0
21	Demuth, Patricia	Who is Bill Gates?	1	2	35	0
22	Dugoni, Robert	The Jury Master	4	4	11	0
23	Epstein, David J.	The Sports Gene: Inside the Science of Extraordinary Athletic Performance	1	8	23	0
24	Evanovich, Janet	Foul Play	1	3	11	0
25	Fisher, Kenneth L.	The Only Three Questions that Still Count: Investing by Knowing What Others Don't	2	2	1	0
26	Fitzpatrick, Huntley	My Life Next Door	1	6	123	0
27	Flynn, Gillian	Gone Girl	5	62	403	12
28	Forman, Gayle	If I Stay	4	43	195	3
29	Gardner, Lisa	Fear Nothing	2	11	46	5
30	Giddings, Anita; Clifton, Sherry Stone	Oil Painting for Dummies	3	13	23	0
31	Gilbert, Elizabeth	Eat, Pray, Love: One Woman's Search for Everything Across Italy, India and Indonesia	6	69	254	1
32	Gladwell, Malcolm	David and Goliath: Underdogs, Misfits, and the Art of Battling Giants	1	25	56	0
33	Gladwell, Malcolm	What the Dog Saw	2	50	108	0
34	Gladwell, Malcolm	Blink: The Power of Thinking Without Thinking	1	62	361	0
35	Gladwell, Malcolm	Tipping Point: How Little Things Can Make a Big Difference	2	23	125	0
36	Golding, William	Lord of the Flies	8	70	1983	0
37	Gordon, Jon	The Energy Bus	1	9	76	0
38	Grabenstein, Chris	Escape from Mr. Lemoncello's Library	2	2	221	0
39	Graham, Benjamin	The Intelligent Investor	4	22	947	13
40	Grant, Adam M.	Give and Take: a Revolutionary Approach to Success	1	7	20	0
41	Grisham, John	The Innocent Man: Murder and Injustice in a Small Town	10	36	119	5

WIS	Author	Title	Scans	Before NEL	During NEL	After NEL
				Total Loans		
42	Grisham, John	Theodore Boone: Kid Lawyer	2	29	145	0
43	Grisham, John	Theodore Boone: The Accused	2	20	69	0
44	Hall, Michael	Red: A Crayon's Story	1	15	104	0
45	Herman, Gail	Who was Jackie Robinson?	1	5	59	0
46	Hiaasen, Carl	Scat	3	2	85	0
47	Hurston, Zora Neale	Their Eyes Were Watching God	8	102	529	6
48	Jahren, Hope	Lab Girl	1	6	55	0
49	James, Marlon	A Brief History of Seven Killings	1	7	32	0
50	Jance, J.A.	Judgment Call	2	2	8	1
51	Jance, J.A.	Dance of the Bones	1	1	6	5
52	Kalanithi, Paul	When Breath Becomes Air	1	14	189	0
53	Kate, Lauren	Fallen	2	71	514	11
54	Kelly, Martha Hall	Lilac Girls	1	0	50	3
55	Klay, Phil	Redeployment	1	12	14	0
56	Krakauer, Jon	Into the Wild	4	81	622	0
57	Kraynak, Cecie; Kraynak, Joe	Spanish All-in-One for Dummies	1	11	33	0
58	Kuhn, Karl F.	Basic Physics	1	9	18	0
59	L'Amour, Louis	Hondo	5	29	148	0
60	Larson, Edward J.	The Return of George Washington	1	3	2	1
61	Larson, Erik	Dead Wake: the Last Crossing of the Lusitania	1	10	45	0
62	Lazarus, William P.; Sullivan, Mark	Comparative Religion for Dummies	1	6	17	0
63	Lehane, Dennis	World Gone By	1	2	15	0
64	Lencioni, Patrick	The Five Dysfunctions of a Team: a Leadership Fable	1	30	59	0
65	Lencioni, Patrick	The Advantage: Why Organizational Health Trumps Everything Else in Business	1	2	13	0

WIS	Author	Title	Scans	Total Loans Before NEL	During NEL	After NEL
66	Lencioni, Patrick	Overcoming the Five Dysfunctions of a Team	1	5	18	0
67	Lencioni, Patrick	The Three Signs of a Miserable Job: a Fable for Managers (and Their Employees)	1	0	4	0
68	Lencioni, Patrick	Getting Naked: a Business Fable About Shedding the Three Fears that Sabotage Client Loyalty	1	0	7	0
69	Levine, Barry	All the President's Women: Donald Trump and the Making of a Predator	1	4	41	0
70	Lewis, C. S.	The Lion, the Witch, and the Wardrobe	26	214	3213	19
71	Lewis, C. S.	The Magician's Nephew	15	74	1176	10
72	Lu, Marie	Legend	1	36	55	0
73	Mandel, Emily St. John	Station Eleven	2	30	292	0
74	Martin, George R. R.	A Dance with Dragons	5	31	128	0
75	McCarthy, Cormac	The Road	5	126	642	0
76	Miller, Donalyn	The Book Whisperer	2	5	21	3
77	Morgenstern, Erin	The Night Circus	2	51	266	3
78	Morrison, Toni	Song of Solomon	13	43	380	0
79	Morrison, Toni	The Bluest Eye	10	59	574	171
80	Nelson, Marilyn	How I Discovered Poetry	1	0	10	0
81	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Too Many Tutus	1	10	130	0
82	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Super Secret Surprise Party	1	5	50	0
83	Palmer, Parker J.	Let Your Life Speak: Listening for the Voice of Vocation	2	19	54	0
84	Park, Barbara	Junie B., First Grader: Boss of Lunch	6	20	117	0
85	Patchett, Ann	Commonwealth	2	4	36	4
86	Patterson, James	Middle School, the Worst Years of My Life	3	28	295	0

WIS	Author	Title	Scans	Before NEL	During NEL	After NEL
				Total Loans		
87	Patterson, James	Invisible	3	11	14	0
88	Patterson, James; Grabenstein, Chris	I Funny: A Middle School Story	3	27	185	12
89	Peirce, Lincoln	Big Nate: Mr. Popularity	1	33	829	0
90	Peirce, Lincoln	Big Nate: Genius Mode	1	22	1023	0
91	Peirce, Lincoln	Big Nate Goes for Broke	2	34	547	0
92	Pinker, Steven	The Better Angels of Our Nature: Why Violence has Declined	2	12	64	4
93	Plath, Sylvia	The Bell Jar	10	64	641	0
94	Pratchett, Terry	Night Watch	1	3	45	0
95	Redwine, C. J.	Defiance	1	2	4	0
96	Ritchhart, Ron	Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners	1	0	2	0
97	Rohr, Richard	Falling Upward: a Spirituality for the Two Halves of Life	1	18	38	0
98	Salinger, J. D.	The Catcher in the Rye	8	51	2115	0
99	Salinger, J. D.	Nine Stories	2	7	93	0
100	Salinger, J. D.	Franny and Zooey	1	6	127	0
101	Salinger, J. D.	Raise High the Roof Beam, Carpenters, and Seymour: An Introduction	4	8	42	0
102	Sandford, John	Phantom Prey	3	10	38	0
103	Schaefer, Charles E.; DiGeronimo, Theresa Foy	Ages and Stages: a Parent's Guide to Normal Childhood Development	1	4	17	0
104	Schneider, Robyn	Extraordinary Means	1	6	22	0
105	Semple, Maria	Today Will Be Different	2	1	13	0
106	Silberman, Steve	Neurotribes: the Legacy of Autism and the Future of Neurodiversity	1	9	27	0
107	Snicket, Lemony	Who Could That Be at This Hour?	4	24	51	0

WIS	Author	Title	Scans	Total Loans Before NEL	During NEL	After NEL
108	Snicket, Lemony	When Did You See Her Last?	3	14	43	0
109	Stewart, Trenton Lee	The Extraordinary Education of Nicholas Benedict	2	13	35	2
110	Stewart, Trenton Lee	The Mysterious Benedict Society	2	30	336	0
111	Stewart, Trenton Lee	The Mysterious Benedict Society and the Perilous Journey	2	24	116	0
112	Stone, Douglas	Thanks for the Feedback: the Science and Art of Receiving Feedback (Even When it is Off-Base, Unfair, Poorly Delivered, and Frankly, You're Not in the Mood)	1	6	14	0
113	Strout, Elizabeth	The Burgess Boys	1	7	7	0
114	Tahir, Sabaa	An Ember in the Ashes	1	18	114	9
115	Turnage, Sheila	Three Times Lucky	3	8	67	0
116	van der Kolk, Bessel A.	The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma	1	9	470	0
117	Wiesel, Elie	Open Heart	1	3	3	0
118	Wilder, Laura Ingalls	Little House in the Big Woods	11	91	592	1
119	Wilder, Laura Ingalls	Little House on the Prairie	7	52	471	5
120	Wilder, Laura Ingalls	Farmer Boy	5	47	220	0
121	Winspear, Jacqueline	A Dangerous Place	1	5	22	2
122	Winspear, Jacqueline	Journey to Munich	2	2	19	2
123	Winspear, Jacqueline	Elegy for Eddie	2	3	25	0
124	Woofenden, Ian	Wind Power for Dummies	1	2	1	0
125	Wouk, Herman	The Winds of War	8	13	72	1
126	Wouk, Herman	The Caine Mutiny: A Novel of World War II	8	18	54	2
127	Zuckerman, Gregory	The Man Who Solved the Market	1	5	124	0

Exhibit T9: Maximum actual concurrent loans, total loans, scan date, republisher date, and inlibrary date, for each Scan associated with a Work in Suit, during the period from March 2017 to on or about Sept 2, 2020 (the earliest and latest loan dates, respectively, for which IA provided data).

WIS	Author	Title	Scan Identifier	Max Actual Concurrent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
1	Ahern, Cecelia	PS, I Love You	psiloveyou0000aher	4	13	2019-10-28	2019-10-30	2019-10-30
			psiloveyou00cece	3	17	2012-06-01	2012-06-02	2015-10-21
			psiloveyou00aherx	4	67	2011-02-17		2011-02-18
			psiloveyouintern00cece	2	28	2012-08-23	2012-08-27	2015-10-21
			psiloveyou00aher_2	6	54	2017-08-09	2017-08-10	2017-10-25
			psiloveyou0000aher_n2n7	0	0	2020-06-25	2020-06-30	2020-06-30
			psiloveyou00cece_1	2	18	2014-06-17	2014-06-18	2018-10-24
			psiloveyou00aher	4	65	2010-07-09		2015-10-21
			psiloveyou0000aher_r5n5	0	0	2020-06-08	2020-06-26	2020-06-26
2	Albertalli, Becky	Simon vs. the Homo Sapiens Agenda	simonvshomosapie0000albe	129	499	2019-06-08	2019-06-10	2019-07-29
3	Applegate, Katherine	The One and Only Ivan	oneonlyivan0000appl_z2y5	207	718	2020-03-14	2020-03-19	2020-03-19
			oneonlyivan0000appl	49	205	2019-12-27	2019-12-28	2019-12-28
4	Bacigalupi, Paolo	Ship Breaker	shipbreakernovel00baci	15	132	2012-05-03	2012-05-05	2016-08-09
5	Brown, Brené	Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead	daringgreatlyhow0000brow	81	120	2020-01-20	2020-01-20	2020-01-20
6	Brown, Pierce	Golden Son	goldenson0000brow	9	27	2020-04-01	2020-04-02	2020-04-02
7	Brown, Sandra	Best Kept Secrets	bestkeptsecrets00brow	6	174	2011-09-05		2015-10-21
			bestkeptsecretst0sand	2	81	2017-06-13	2017-06-14	2017-10-25
			bestkeptsecrets00brow_1	4	33	2013-06-19	2013-06-20	2014-04-04
			bestkeptsecrets00brow_0	6	190	2012-04-28	2012-04-29	2016-08-09
			threecompletenov00brow	4	88	2010-06-28		2011-02-08
8	Brown, Sandra	The Witness	witnesbrow00brow	4	57	2010-05-12		2011-02-08
			witness00brow_0	5	68	2014-11-13	2014-11-25	2015-10-21
			witnessbr00brow	2	43	2010-09-18		2011-02-08
			witnessbrow00brow	3	79	2011-11-23		2016-08-09
			witness00brow	2	65	2011-11-18		2016-08-09
			witnessbrows00brow	3	112	2010-06-22		2011-02-08
			witnessbrown00brow	2	35	2010-08-13		2011-02-08
			witnesshardcover00sand	3	30	2013-11-13	2013-11-14	2014-04-04
9	Bryson, Bill	A Short History of Nearly Everything	shorthistoryofne0000brys	1	4	2020-06-03	2020-06-05	2020-06-05
			shorthistoryofn000brys	0	0	2012-04-21	2012-04-24	2014-01-14
			shorthistoryofne00brys	19	204	2010-06-30		2015-10-21
			isbn_9780965738408	67	447	2017-01-07	2017-01-07	2017-03-10
			isbn_9780375432002	14	75	2017-09-11	2017-09-11	2018-10-24
10	Bryson, Bill	A Short History of Nearly Everything: Special Illustrated Edition	shorthistoryofne00brys_1	9	92	2017-02-15	2017-02-19	2017-10-25
11	Cabot, Meg	The Bride Wore Size 12	brideworesize120000cabo_x4s5	2	31	2018-09-28	2018-10-03	2018-12-12
			brideworesize120000cabo	4	25	2018-07-17	2018-07-18	2018-12-12

WIS	Author	Title	Scan Identifier	Max Actual Concurrent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
12	Carter, Les	Enough About You, Let's Talk About Me: How to Recognize and Manage the Narcissists in Your Life	enoughaboutyoul00cart enoughaboutyoule00cart	2 5	23 76	2011-08-10 2011-04-02		2016-08-09 2016-08-09
13	Catling, Patrick Skene	The Chocolate Touch	chocolatetouch00catl_1 chocolatetouch00patr chocolatetouchth00patr chocolatetouch00marg chocolatetouch00catl chocolatetouch00catl_0	1 7 17 40 58 26	9 79 94 213 275 172	2012-12-04 2012-09-10 2012-04-06 2013-11-23 2009-09-02 2012-08-22	2012-12-04 2012-09-11 2012-04-06 2013-11-29 2012-11-30	2018-10-24 2016-08-09 2016-08-09 2016-08-09 2011-04-14 2018-10-24
14	Cisneros, Sandra	The House on Mango Street	houseonmangostr000cisn houseonmangostre00sand houseonmangostre00cisn	176 19 30	624 163 190	2018-05-16 2010-05-10	2018-05-24 2012-02-13 	2018-07-10 2016-08-09 2011-02-08
15	Conti, Peter; Harris, Peter	Commercial Real Estate Investing for Dummies	commercialreales0000cont	2	9	2019-10-25	2019-10-26	2019-10-26
16	Corey, James S.A.	Leviathan Wakes	leviathanwakes0000core	58	148	2020-01-16	2020-01-17	2020-01-17
17	Corey, James S.A.	Caliban's War	calibanswar00core	29	176	2018-01-02	2018-01-03	2018-02-21
18	Crossan, Sarah	Breathe	breathe0000cros	3	15	2019-11-11	2019-11-13	2019-11-13
19	Crossan, Sarah	Resist	resist0000cros	5	19	2018-09-10	2018-09-14	2018-10-23
20	Danforth, Emily M.	The Miseducation of Cameron Post	isbn_9780062020567	36	242	2017-09-18	2017-09-19	2017-10-25
21	Demuth, Patricia	Who is Bill Gates?	whoisbillgates0000demu	10	37	2020-01-10	2020-01-16	2020-01-16
22	Dugoni, Robert	The Jury Master	jurymaster0000dugo jurymaster00dugo isbn_0446617075 isbn_9780786287789	0 2 1 2	0 37 16 10	2019-12-13 2010-06-19 2011-09-22 2017-06-07	2019-12-16 2017-06-10	2019-12-16 2016-08-09 2016-08-09 2017-10-25
23	Epstein, David J.	The Sports Gene: Inside the Science of Extraordinary Athletic Performance	sportsgeneinside0000epst	7	35	2019-10-10	2019-10-15	2019-10-18
24	Evanovich, Janet	Foul Play	foulplay00jane_0	3	35	2018-08-30	2018-09-06	2018-10-23
25	Fisher, Kenneth L.	The Only Three Questions that Still Count: Investing by Knowing What Others Don't	onlythreequestio0000fish onlythreequestio0000fish_w7r8	1 0	3 0	2019-12-13 2020-07-01	2019-12-14 2020-07-11	2019-12-14 2020-07-11
26	Fitzpatrick, Huntley	My Life Next Door	mylifenextdoor0000fitz	26	129	2020-01-14	2020-01-14	2020-01-14
27	Flynn, Gillian	Gone Girl	gonegirlnovel0000flyn isbn_9780307588371 isbn_9780553418354 gonegirlnovel0000flyn_c1c5 gonegirlnovel00flyn	3 20 4 0 58	24 179 53 0 358	2019-11-29 2015-12-10 2017-03-31 2020-06-11 2014-05-07	2019-12-03 2015-12-15 2017-04-01 2020-06-26 2014-05-19	2019-12-03 2018-10-24 2018-12-12 2020-06-26 2018-10-24
28	Forman, Gayle	If I Stay	ifistaynovel0000form ifistay00gayl ifistaynovel00form ifistay10000form	4 23 27 1	11 213 248 1	2020-01-17 2011-12-23 2013-04-10 2020-06-08	2020-01-18 2015-09-16 2020-06-11	2020-01-18 2016-08-09 2016-08-09 2020-06-11
29	Gardner, Lisa	Fear Nothing	isbn_9780525953081 isbn_9780451469397	6 4	82 37	2017-03-28 2017-05-24	2017-03-29 2017-05-25	2018-12-12 2018-12-12
30	Giddings, Anita; Clifton, Sherry Stone	Oil Painting for Dummies	isbn_9780470182307 oilpaintingfordu0000gidd oilpaintingfordu01gidd	6 2 4	47 2 68	2018-01-25 2020-03-08 2017-02-28	2018-01-27 2020-03-09 2017-02-28	2018-05-31 2020-03-09 2017-10-25

WIS	Author	Title	Scan Identifier	Max Actual Concurrent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
31	Gilbert, Elizabeth	Eat, Pray, Love: One Woman's Search for Everything Across Italy, India and Indonesia	eatprayloveonewo00gilb	20	233	2010-01-28		2016-08-09
			eatprayloveonewo2007gilb	5	49	2011-10-05		2018-10-24
			isbn_9780747585664	3	50	2012-09-21	2012-09-22	2016-08-09
			eatprayloveonewo00eliz_0	6	38	2013-11-05	2014-03-21	2018-10-24
			eatprayloveonewo00gilb_0	32	193	2013-10-22	2013-10-24	2016-08-09
			eatpraylovelarge00gilb	16	70	2011-05-17		2018-10-24
32	Gladwell, Malcolm	David and Goliath: Underdogs, Misfits, and the Art of Battling Giants	davidgoliath00malc_0	34	147	2014-07-21	2014-07-21	2018-12-12
33	Gladwell, Malcolm	What the Dog Saw	whatdogsawessays0000unse	0	0	2020-07-06	2020-07-14	2020-07-14
			whatdogsawothera00glad	58	344	2012-08-18	2012-08-20	2016-08-09
34	Gladwell, Malcolm	Blink: The Power of Thinking Without Thinking	blinkpowerofthin00glad	205	568	2010-02-01		2016-08-09
35	Gladwell, Malcolm	Tipping Point: How Little Things Can Make a Big Difference	tippingpointhowl00glad	49	225	2011-06-09		2014-01-14
			tippingpointhowl0000glad	13	26	2020-03-06	2020-03-06	2020-03-06
36	Golding, William	Lord of the Flies	lordofflies0000unse	1	2	2020-01-28	2020-01-29	2020-05-08
			lordofflies00gold	132	375	2009-11-17		2011-02-09
			lordofflies00gold_0	75	312	2012-02-23	2012-02-25	2016-08-09
			williamgoldingsl00gold	3	76	2012-04-06	2012-04-07	2012-10-19
			lordofflies00gold_1	172	510	2012-09-12	2012-09-14	2012-10-18
			lordoffliesnovelgol00gold	378	1092	2010-09-13		2011-02-08
			lordoffliesnovel00gold	70	269	2009-12-11		2011-02-09
			lordoffliesnovel0000gold	28	54	2020-02-05	2020-02-06	2020-02-06
37	Gordon, Jon	The Energy Bus	energybus10rules00gord	21	145	2015-01-27	2015-02-09	2016-08-09
38	Grabenstein, Chris	Escape from Mr. Lemoncello's Library	escapefrommrlemo0000grab_x8g3	0	0	2020-06-16	2020-07-04	2020-07-04
			escapefrommrlemo0000grab	59	223	2020-02-20	2020-02-26	2020-02-26
39	Graham, Benjamin	The Intelligent Investor	intelligentinves00grah	22	108	2010-07-26		2019-10-19
			intelligentinves00benj	38	166	2014-06-25	2014-06-26	2014-07-02
			harrypotterhalfb00rowl_0	12	147	2012-04-24	2012-04-24	2016-08-09
			intelligentinves00grah_1	191	767	2017-08-09	2017-08-12	2017-10-25
40	Grant, Adam M.	Give and Take: a Revolutionary Approach to Success	givetakerevoluti0000gran	8	54	2018-04-14	2018-05-02	2018-10-24
41	Grisham, John	The Innocent Man: Murder and Injustice in a Small Town	innocentman0000gris	0	0	2020-06-01	2020-06-15	2020-06-15
			innocentmanmurde00gris_0	19	111	2012-04-28	2012-04-28	2018-10-24
			innocentmanmurde00gris	3	38	2009-11-25		2016-08-09
			innocentmanmurde00john_1	1	18	2013-11-15	2013-11-21	2016-08-09
			innocentmanmurdegri00gris	4	108	2010-08-26		2016-08-09
			innocentman00john_1	5	51	2014-09-06	2014-09-11	2016-08-09
			innocentmanmurde0000gris	0	0	2020-06-11	2020-06-25	2020-06-25
			innocentmanmurdegris00gris	3	42	2010-03-10		2016-08-09
			innocentman00john	10	83	2012-08-27	2012-09-03	2016-08-09
			innocentman00john_2	0	0	2013-11-20	2013-11-22	2015-11-03
42	Grisham, John	Theodore Boone: Kid Lawyer	theodoreboonekid00gris	20	155	2012-03-06	2012-03-07	2016-08-09
			isbn_9780142417225	19	181	2012-03-27	2012-03-28	2016-08-09
43	Grisham, John	Theodore Boone: The Accused	isbn_9780525425762	13	180	2015-12-22	2015-12-25	2017-10-25
			accused0000gris	1	2	2020-05-30	2020-06-02	2020-06-02
44	Hall, Michael	Red: A Crayon's Story	redcrayonsstory00hall	15	127	2019-08-21	2019-08-22	2019-09-23
45	Herman, Gail	Who was Jackie Robinson?	whowasjackierobi0000herm	20	66	2019-11-14	2019-11-16	2019-11-16
46	Hiaasen, Carl	Scat	scat00hiaa_0	12	53	2017-03-27	2017-03-27	2018-10-24
			scat0000hiaa	10	28	2020-02-21	2020-02-26	2020-02-26
			scathiaa00hiaa	10	44	2011-08-04		2018-10-24
47	Hurston, Zora Neale	Their Eyes Were Watching God	theireyeswerewat00unse	19	67	2011-09-29		2018-10-24
			isbn_9780060838676	66	364	2012-03-17	2012-03-19	2018-10-24
			theireyeswerewat1998hurs	15	176	2011-07-08		2012-01-23
			theireyeswere00hurs	37	246	2009-10-26		2011-02-08
			isbn_0252006860	32	45	2020-02-28	2020-02-28	2020-03-17
			theireyeswerewat00hurs	10	171	2010-10-11		2011-02-08
			theireyeswerewat00hur_a4l	3	117	2013-02-19	2013-02-20	2017-06-21
			theireyeswerewat000hurs	15	73	2011-08-22		2011-09-29
48	Jahren, Hope	Lab Girl	labgirl0000jahr	26	61	2018-05-04	2018-05-16	2020-01-13

WIS	Author	Title	Scan Identifier	Max Actual Con-cur-rent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
49	James, Marlon	A Brief History of Seven Killings	briefhistoryofse0000jame	10	46	2019-10-08	2019-10-12	2019-10-18
50	Jance, J.A.	Judgment Call	judgmentcall00janc judgmentcallbrad0000janc	2 1	31 2	2017-07-14 2019-11-23	2017-07-15 2019-11-25	2017-10-25 2019-11-25
51	Jance, J.A.	Dance of the Bones	danceofbonesjpbe0000janc	4	29	2018-04-14	2018-04-26	2018-12-12
52	Kalanithi, Paul	When Breath Becomes Air	whenbreathbecome0000kala	126	203	2019-10-09	2019-10-12	2020-01-13
53	Kate, Lauren	Fallen	fallen00laur isbn_9780385738934	222 37	613 283	2012-07-10 2017-09-12	2012-07-11 2017-09-12	2016-08-09 2017-10-25
54	Kelly, Martha Hall	Lilac Girls	lilacgirlsnovel0000kell	24	53	2020-03-07	2020-03-19	2020-03-19
55	Klay, Phil	Redeployment	redeployment0000klay	6	54	2017-12-29	2017-12-29	2018-12-12
56	Krakauer, Jon	Into the Wild	intowildmti00jonk_tg3 intowild00krak intowildmti00jonk intowild00krak_1	63 0 107 95	349 0 350 372	2013-01-04 2009-08-19 2012-01-18 2017-09-27	2013-01-07 2017-09-28	2017-06-21 2011-02-08 2016-08-09 2017-10-24
57	Kraynak, Cecie; Kraynak, Joe	Spanish All-in-One for Dummies	spanishallinonef0000kray	10	72	2018-12-11	2018-12-11	2018-12-16
58	Kuhn, Karl F.	Basic Physics	basicphysics00kuhn	6	104	2011-07-02		2012-01-23
59	L'Amour, Louis	Hondo	hondo00lamo_2 hondolamo00lamo hondo00lamo fourcompletenove00lamo fourcompletenove00lamorich	25 0 0 0 0	250 0 0 0 0	2017-03-04 2010-09-20 2010-07-24 2010-06-11 2009-08-12	2017-03-05 	2018-10-24 2011-02-08 2011-02-08 2011-02-08 2011-04-14
60	Larson, Edward J.	The Return of George Washington	returnofgeorgewa0000lars	2	6	2020-01-12	2020-01-14	2020-01-14
61	Larson, Erik	Dead Wake: the Last Crossing of the Lusitania	deadwakelastcros0000lars	16	91	2018-01-02	2010-01-07	2018-12-12
62	Lazarus, William P.; Sullivan, Mark	Comparative Religion for Dummies	isbn_9780470230657	6	58	2017-07-14	2017-07-15	2017-10-25
63	Lehane, Dennis	World Gone By	worldgoneby0000leha	5	23	2019-10-11	2019-10-15	2019-10-18
64	Lencioni, Patrick	The Five Dysfunctions of a Team: a Leadership Fable	fivedysfunctions00lenc	20	191	2011-05-13		2014-01-14
65	Lencioni, Patrick	The Advantage: Why Organizational Health Trumps Everything Else in Business	advantagewhyorga0000lenc	6	15	2020-02-03	2020-02-03	2020-02-03
66	Lencioni, Patrick	Overcoming the Five Dysfunctions of a Team	overcomingfivedy00lenc_0	7	56	2017-02-05	2017-02-11	2017-03-10
67	Lencioni, Patrick	The Three Signs of a Miserable Job: a Fable for Managers (and Their Employees)	threesignsofmise00lenc	2	23	2011-08-11		2016-08-09
68	Lencioni, Patrick	Getting Naked: a Business Fable About Shedding the Three Fears that Sabotage Client Loyalty	gettingnakedbusi00patr	3	39	2012-09-22	2012-09-24	2016-08-09
69	Levine, Barry	All the President's Women: Donald Trump and the Making of a Predator	allpresidentswom0000levi	27	45	2019-10-29	2019-10-29	2019-10-28

WI$	Author	Title	Scan Identifier	Max Actual Con-current Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
70	Lewis, C. S.	The Lion, the Witch, and the Wardrobe	lionwitchwardroblew00lewi	55	209	2011-10-19		2012-01-23
			lionwitchwardrobcs00lewi	42	256	2010-06-16		2011-02-08
			completechronicl0000lewi	63	338	2020-03-07	2020-03-11	2020-03-11
			lionwitchwardrob0000lewi	35	118	2019-12-21	2019-12-23	2019-12-23
			chroniclesofnar00lewi	66	302	2010-09-10		2019-10-19
			isbn_9780060598242	7	109	2017-02-09	2017-02-13	2018-10-24
			chroniclesofnarn00lewi	30	188	2011-11-26		2018-10-24
			essentialcslewis00lewi	8	142	2011-01-26		2011-02-08
			lionwitchwardroblion00lewi	58	169	2010-07-08		2011-02-08
			isbn_9780060234812	13	112	2016-01-22	2016-01-23	2018-10-24
			isbn_0060765488	77	317	2011-12-08		2018-10-24
			lionwitchwardrob00lewi	4	20	2009-07-08		2019-10-19
			lionwitchwardrob0000lewi_u5f4	0	0	2020-07-16	2020-07-29	2020-07-29
			lionwitch00lewi	5	125	2012-03-15	2012-03-16	2012-10-19
			isbn_9780061715051	6	52	2016-12-26	2016-12-27	2018-10-24
			lionwitchwardroblewi00lewi	34	182	2011-09-17		2018-10-24
			lionwitchwardroblewis00lewi	32	224	2010-06-15		2011-02-08
			isbn_9780060764890	17	84	2012-02-19	2012-02-20	2018-10-24
			isbn_9780006716778	30	153	2012-04-14	2012-04-16	2018-10-24
			isbn_9780060765460	7	56	2012-05-12	2012-05-14	2018-10-24
			lionwitchwardbro0000unse	1	2	2020-03-09	2020-03-12	2020-05-11
			isbn_0590405950	269	1190	2012-06-11	2012-06-11	2016-08-09
			isbn_9780060890155	16	107	2012-10-20	2012-10-22	2018-10-24
			isbn_9780007821075	4	9	2019-10-29	2019-10-31	2020-01-14
			lionwitchwardrob00lewi_2	3	115	2013-09-23	2013-09-26	2014-04-04
			lionwitchwardrob00lewi_0	6	67	2012-04-27	2012-04-29	2018-10-24
71	Lewis, C. S.	The Magician's Nephew	completechronicl0000lewi	63	338	2020-03-07	2020-03-11	2020-03-11
			magiciansnephew00lewi_0	3	32	2012-04-24	2012-04-25	2018-10-24
			isbn_B002MAQTE2	3	44	2013-11-01	2013-11-05	2018-10-24
			isbn_9780007821082	3	9	2019-10-28	2019-10-30	2019-12-31
			magiciansnephew0000csle	1	1	2020-06-08	2020-06-13	2020-06-13
			magiciansnephew0000lewi	5	18	2020-02-21	2020-02-22	2020-02-22
			magiciansnephew01lewi	5	34	2011-09-22		2018-10-24
			magiciansnephewc00csle	16	138	2012-04-14	2012-04-16	2016-08-09
			magiciansnephew00lewi	38	323	2009-11-17		2011-02-08
			magiciansnephewlewi00lewi	10	134	2010-05-25		2011-02-08
			chroniclesofnar00lewi	66	302	2010-09-10		2019-10-19
			chroniclesofnarn00lewi_0	7	57	2012-03-14	2012-03-15	2018-10-24
			isbn_9780060598242	7	109	2017-02-09	2017-02-13	2018-10-24
			chroniclesofnarn00lewi	30	188	2011-11-26		2018-10-24
			magiciansnephewr00csle	22	104	2012-09-18	2012-09-20	2018-10-24
72	Lu, Marie	Legend	legend00luma	30	195	2017-12-21	2017-12-22	2018-02-22
73	Mandel, Emily St. John	Station Eleven	stationeleven0000mand	88	138	2019-12-26	2019-12-27	2019-12-27
			stationelevennov0000mand	108	228	2018-04-16	2018-04-28	2018-12-12
74	Martin, George R. R.	A Dance with Dragons	dancewithdragons0000mart_l7e4	0	0	2020-06-11	2020-06-17	2020-06-17
			dancewithdragons00geor	11	36	2019-12-04	2019-12-05	2020-01-16
			dancewithdragons00mart	25	211	2017-12-24	2017-12-26	2018-02-21
			dancewithdragons0000mart	1	2	2020-06-08	2020-06-10	2020-06-10
			dancewithdragons0000mart_z7e8	0	0	2020-07-08	2020-07-24	2020-07-24
75	McCarthy, Cormac	The Road	road00mcca	96	499	2012-02-13	2012-02-13	2016-08-09
			roadmovietieined00corm	13	133	2011-07-15		2016-08-09
			road0000mcca	0	0	2020-06-03	2020-06-20	2020-06-20
			roadmovietieined00corm_0	43	220	2012-08-10	2012-08-13	2016-08-09
			unset0000unse_f0a5	40	303	2018-08-08	2018-08-09	2018-12-12
76	Miller, Donalyn	The Book Whisperer	bookwhispererawa0000mill	3	9	2020-03-07	2020-03-09	2020-03-09
			bookwhispererawa00mill	6	54	2012-08-10	2012-08-13	2016-08-09
77	Morgenstern, Erin	The Night Circus	nightcircus00erin	44	286	2017-07-12	2017-07-18	2017-10-25
			nightcircusnovel00morg	34	187	2018-08-28	2018-08-31	2018-09-07

WIS	Author	Title	Scan Identifier	Max Actual Con-cur-rent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
78	Morrison, Toni	Song of Solomon	songofsolomon0000morr	23	88	2020-03-18	2020-03-23	2020-03-23
			songsolomon00morr_536	0	0	2012-02-04		nan
			songofsolomonmorr00morr	0	0	2011-11-10		2012-01-23
			songofsolomonmorris00morr	0	0	2011-08-18		2012-01-23
			songofsolomon00morr_0	108	414	2012-07-25	2012-07-25	2015-10-21
			songofsolomon0000morr_har5	8	22	2020-03-18	2020-03-19	2020-03-19
			songofsolomon00morr	0	0	2010-01-13		2011-02-09
			songofsolomon00morrrich	0	0	2009-08-05		2011-02-08
			songofsolomon00toni_0	7	68	2013-09-05	2013-09-12	2014-04-04
			songofsolomonsig00ton_128	6	57	2013-10-30	2013-10-31	2014-04-04
			songofsolomon00morr	0	0	2011-08-24		2011-09-29
			songofsolomon00toni	0	0	2012-10-11	2012-10-13	2012-10-19
			songofsolomontar00morr	0	0	2011-03-10		2011-04-14
79	Morrison, Toni	The Bluest Eye	blusteye00morr_1	4	58	2012-05-09	2012-05-10	2018-10-24
			blusteye00morr_0	37	229	2012-01-11		2016-08-09
			blusteye00toni	0	0	2012-02-22	2012-02-23	2012-10-19
			blusteye1994morr	0	0	2011-05-11		2012-01-23
			blusteyenovel00morr_0	16	180	2013-09-26	2013-09-28	2016-08-09
			blusteye00morr_2	11	66	2012-05-26	2012-05-28	2018-10-24
			blusteyetonimor00morr	20	158	2010-06-23		2011-02-08
			blusteyenovel00morr	15	126	2012-08-28	2012-08-30	2012-10-18
			blusteyenovel0000morr	93	405	2020-02-11	2020-02-12	2020-02-12
			sparknotesbluest00toni	2	35	2012-03-21	2012-03-22	2014-04-04
80	Nelson, Marilyn	How I Discovered Poetry	howidiscoveredpo0000nels	2	10	2020-03-17	2020-03-20	2020-03-20
81	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Too Many Tutus	fancynancytooman0000ocon	14	184	2018-11-06	2018-11-14	2018-12-12
82	O'Connor, Jane; Glasser, Robin	Fancy Nancy: Super Secret Surprise Party	fancynancysupers0000ocon	8	57	2019-11-07	2019-11-09	2019-11-09
83	Palmer, Parker J.	Let Your Life Speak: Listening for the Voice of Vocation	letyourlifespeak00palm	12	130	2011-08-02		2014-01-14
			letyourlifespeak2000palm	6	87	2011-09-19		2014-01-14
84	Park, Barbara	Junie B., First Grader: Boss of Lunch	juniebfirstgrad00park	3	25	2011-03-18		2018-10-24
			juniebfirstgrade0000park_w5w4	6	72	2018-10-02	2018-10-09	2018-12-12
			juniebfirstgrabos00park	3	66	2011-09-21		2014-01-14
			juniebfirstgrade0000park_k1f0	3	21	2020-01-07	2020-01-14	2020-01-14
			juniebfirstbosso00park	8	45	2010-01-19		2019-10-19
			juniebfirstgrade00barb	2	22	2012-01-13		2014-01-14
85	Patchett, Ann	Commonwealth	commonwealth0000patc	0	0	2020-06-11	2020-07-03	2020-07-03
			commonwealthnove0000patc	11	44	2019-10-14	2019-10-17	2020-01-13
86	Patterson, James	Middle School, the Worst Years of My Life	middleschoolwors0000patt	43	192	2020-02-20	2020-02-27	2020-02-27
			isbn_9780316101691	26	222	2016-12-30	2017-01-03	2017-10-25
			middleschoolwors00patt	6	47	2017-02-22	2017-02-24	2017-10-25
87	Patterson, James	Invisible	invisible0000patt	0	0	2020-06-04	2020-06-19	2020-06-19
			invisible0000patt_t3s3	0	0	2020-06-10	2020-06-25	2020-06-25
			isbn_9780316405348	4	74	2015-12-11	2015-12-19	2018-12-12
88	Patterson, James; Graben-stein, Chris	I Funny: A Middle School Story	ifunny0000patt_w7e5	18	90	2019-10-30	2019-10-31	2019-10-31
			ifunny0000patt	17	193	2018-09-28	2018-10-02	2018-10-23
			ifunny10000patt	0	0	2020-07-06	2020-07-28	2020-07-28
89	Peirce, Lincoln	Big Nate: Mr. Popular-ity	isbn_9780062087003	98	934	2017-10-17	2017-10-19	2018-12-12
90	Peirce, Lincoln	Big Nate: Genius Mode	isbn_9780062086983	134	1109	2017-10-06	2017-10-09	2018-10-24
91	Peirce, Lincoln	Big Nate Goes for Broke	bignategoesforbr0000peir	0	0	2020-06-13	2020-06-17	2020-06-17
			bignategoesforbr00peir	62	671	2018-07-18	2018-07-20	2018-10-24
92	Pinker, Steven	The Better Angels of Our Nature: Why Violence has Declined	betterangelsofou0000pink	9	30	2020-02-28	2020-02-28	2020-02-28
			betterangelsofou00pink	11	99	2018-08-09	2018-08-10	2018-08-11

WIS	Author	Title	Scan Identifier	Max Actual Concurrent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
93	Plath, Sylvia	The Bell Jar	belljarokat00plat	7	143	2011-06-18		2012-01-23
			belljar00sylv	6	134	2012-07-28	2012-08-01	2012-10-19
			belljarplat00plat	45	266	2010-06-01		2011-02-08
			belljar00platrich	31	154	2009-08-06		2011-04-14
			belljar00plat	29	170	2010-04-21		2011-02-08
			belljar0000unse	15	50	2020-03-09	2020-03-13	2020-03-20
			belljar00plat_1	11	64	2014-08-16	2014-08-21	2018-10-24
			belljar00plat_0	4	53	2013-04-19	2013-04-20	2018-10-24
			belljarps00sylv	38	212	2012-03-05	2012-03-05	2018-10-24
			belljar000plat	12	126	2012-01-13		2012-01-23
94	Pratchett, Terry	Night Watch	nightwatch00prat_0	12	73	2017-08-08	2017-08-09	2018-10-24
95	Redwine, C. J.	Defiance	defiance00redw	2	17	2018-02-22	2018-02-27	2018-05-31
96	Ritchhart, Ron	Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners	makingthinkingvi0000unse	1	2	2020-03-16	2020-03-17	2020-05-12
97	Rohr, Richard	Falling Upward: a Spirituality for the Two Halves of Life	fallingupwardspi00rohr	14	173	2012-03-28	2012-03-29	2016-08-09
98	Salinger, J. D.	The Catcher in the Rye	catcherinrye00salirich	20	153	2009-07-31		2014-04-04
			catcye00jdsa	153	745	2012-09-05	2012-09-06	2014-04-04
			catcherinrye0000sali	134	526	2019-10-08	2019-10-12	2019-10-17
			catcherinryesalig00sali	16	148	2011-10-18		2014-01-14
			catcherinrye00bant	10	105	2012-07-16	2012-07-18	2014-07-02
			catcherinrye0000sali_u5n7	162	316	2020-03-14	2020-03-14	2020-03-14
			catcherinrye0000sali_n7t7	184	449	2020-03-10	2020-03-10	2020-03-10
			catcherinryesali00sali	5	100	2011-10-16		2014-04-04
99	Salinger, J. D.	Nine Stories	ninestories0000sali	11	36	2020-02-15	2020-02-20	2020-02-20
			ninestories0002sali	17	68	2019-10-08	2019-10-12	2019-10-17
100	Salinger, J. D.	Franny and Zooey	frannyzooey00salirich	31	207	2009-08-06		2014-04-04
101	Salinger, J. D.	Raise High the Roof Beam, Carpenters, and Seymour: An Introduction	raisehighroofbea0000sali_l9y4	8	27	2019-10-08	2019-10-12	2019-10-18
			raisehighroofbea0000sali_o4a4	1	4	2020-03-13	2020-03-14	2020-03-14
			raisehighroofbea00sali	7	97	2010-03-17		2014-04-04
			raisehighroofbea0000sali	1	2	2019-04-15	2019-04-17	2019-04-23
102	Sandford, John	Phantom Prey	phantomprey00john_0	3	44	2013-09-25	2013-10-06	2016-08-09
			phantomprey000sand	3	89	2012-05-16	2012-05-18	2016-08-09
			phantomprey00sand	3	78	2010-01-07		2016-08-09
103	Schaefer, Charles E.; DiGeronimo, Theresa Foy	Ages and Stages: a Parent's Guide to Normal Childhood Development	agesstagesparent00char	8	37	2012-06-01	2012-06-04	2014-04-04
104	Schneider, Robyn	Extraordinary Means	extraordinarymea0000schn	8	56	2018-04-13	2018-04-25	2018-12-12
105	Semple, Maria	Today Will Be Different	todaywillbediffe0000semp	2	9	2019-10-07	2019-10-11	2020-01-13
			todaywillbediffe0000semp_m6e9	3	5	2019-12-27	2020-01-06	2020-01-13
106	Silberman, Steve	Neurotribes: the Legacy of Autism and the Future of Neurodiversity	neurotribeslegac0000silb	9	44	2019-10-09	2019-10-15	2019-10-18
107	Snicket, Lemony	Who Could That Be at This Hour?	whocouldthatbeat0000snic_s5w5	0	0	2020-06-16	2020-06-20	2020-06-20
			whocouldthatbeat0000snic	3	24	2018-10-26	2018-10-30	2018-12-11
			whocouldthatbeat00snic	12	128	2015-09-26	2015-10-08	2017-11-14
			whocouldthatbeat0000snic_r4z5	0	0	2020-09-04	2020-09-10	2020-09-11
108	Snicket, Lemony	When Did You See Her Last?	whendidyouseeher0000snic_p9k1	0	0	2020-06-11	2020-07-01	2020-07-01
			whendidyouseeher0000snic	4	17	2019-12-26	2019-12-28	2019-12-28
			isbn_9780316123051	6	71	2016-08-04	2016-08-05	2018-10-24
109	Stewart, Trenton Lee	The Extraordinary Education of Nicholas Benedict	extraordinaryedu0000stew	2	2	2020-06-11	2020-06-16	2020-06-16
			isbn_9780316176194	9	113	2017-05-17	2017-05-27	2017-10-25

WIS	Author	Title	Scan Identifier	Max Actual Concurrent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
110	Stewart, Trenton Lee	The Mysterious Benedict Society	mysteriousbenedi00tren	16	165	2013-09-11	2013-09-17	2016-08-09
			mysteriousbenedi00stew	74	430	2012-05-05	2012-05-05	2016-08-09
111	Stewart, Trenton Lee	The Mysterious Benedict Society and the Perilous Journey	isbn_9780316036733	15	130	2013-12-20	2013-12-23	2016-08-09
			mysteriousbenedi00stew_0	17	151	2012-05-30	2012-05-31	2016-08-09
112	Stone, Douglas	Thanks for the Feedback: the Science and Art of Receiving Feedback (Even When it is Off-Base, Unfair, Poorly Delivered, and Frankly, You're Not in the Mood)	thanksforfeedbac0000ston	6	26	2019-10-05	2019-10-10	2019-10-17
113	Strout, Elizabeth	The Burgess Boys	burgessboysnovel00eliz	4	30	2017-11-10	2017-11-11	2018-10-24
114	Tahir, Sabaa	An Ember in the Ashes	isbn_9781595148032	25	188	2017-09-15	2017-09-16	2018-12-11
115	Turnage, Sheila	Three Times Lucky	threetimeslucky0000turn_n0j9	3	7	2019-11-22	2019-12-04	2019-11-27
			threetimeslucky0000turn_e7y3	14	49	2020-02-20	2020-02-27	2020-02-27
			threetimeslucky0000turn	6	39	2018-07-13	2018-07-14	2018-07-20
116	van der Kolk, Bessel A.	The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma	isbn_9780143127741	159	479	2019-12-30	2019-12-31	2020-01-10
117	Wiesel, Elie	Open Heart	openheart0000wies	2	7	2019-09-19	2019-09-21	2019-09-21
118	Wilder, Laura Ingalls	Little House in the Big Woods	isbn_9780812420579	3	5	2019-09-23	2019-09-26	2020-05-20
			littlehouseinbig0000wild	7	23	2020-02-20	2020-02-22	2020-02-22
			littlehouseinbig00wild_1	27	97	2012-05-02	2012-05-03	2018-10-24
			littlehouseinbig00scho	66	428	2013-01-09	2013-01-10	2014-07-02
			littlehouseinbig00wild_0	7	62	2012-02-23	2012-02-25	2018-10-24
			isbn_0590085247	24	202	2012-01-18	2012-01-19	2014-01-14
			littlehouseinbig00wild_3	5	56	2014-06-20	2014-06-23	2018-10-24
			littlehouseinbig00wild	12	62	2009-10-29		2019-10-19
			littlehouseinbig0000wild_c4z6	1	2	2020-06-10	2020-06-15	2020-06-15
			littlehouseinbig00wild_6	27	140	2015-03-18	2015-03-25	2018-10-24
			littlehousetreas00wild	10	52	2009-12-14		2019-10-19
119	Wilder, Laura Ingalls	Little House on the Prairie	littlehouseonpra00wild_3	11	63	2012-09-28	2012-10-05	2018-10-24
			littlehouseonpra00wild_2	30	240	2012-08-10	2012-08-10	2018-10-24
			littlehouseonpra00wild	44	336	2009-10-05		2011-02-08
			littlehouseonpra00wild_0	14	95	2012-03-14	2012-03-15	2018-10-24
			littlehouseonpra0000unse	7	20	2020-02-17	2020-02-18	2020-03-17
			littlehouseonpra00wild_1	4	35	2012-09-05	2012-09-10	2018-10-24
			littlehousetreas00wild	10	52	2009-12-14		2019-10-19
120	Wilder, Laura Ingalls	Farmer Boy	farmerboylittleh00wild_0	4	104	2012-08-27	2012-08-28	2014-04-04
			farmerboy00wild	22	181	2010-03-17		2014-01-14
			farmerboy00wild_0	10	84	2012-03-14	2012-03-15	2018-10-24
			farmerboy0000wild	1	10	2019-11-12	2019-11-14	2019-11-14
			farmerboylittleh00wild	21	303	2012-08-10	2012-08-10	2014-01-14
121	Winspear, Jacqueline	A Dangerous Place	dangerousplaceno0000wins	6	53	2018-04-16	2018-04-27	2018-12-12
122	Winspear, Jacqueline	Journey to Munich	journeytomunichm0000wins	0	0	2020-06-05	2020-06-09	2020-06-09
			journeytomunichn0000wins	6	23	2018-04-18	2018-05-03	2020-01-13
123	Winspear, Jacqueline	Elegy for Eddie	elegyforeddie00wins	7	48	2018-06-24	2018-06-28	2018-12-12
			elegyforeddie0000wins	0	0	2020-06-10	2020-06-29	2020-06-29
124	Woofenden, Ian	Wind Power for Dummies	isbn_9780470496374	1	16	2017-06-22	2017-10-23	2017-10-24
125	Wouk, Herman	The Winds of War	windsof00wouk	5	43	2012-11-08	2012-11-13	2018-07-21
			windsofwar00hwou	3	41	2015-02-15	2015-02-28	2015-10-21
			windsofwar00wouk	5	78	2010-04-14		2011-02-08
			windsofwarnove00wouk	3	82	2013-04-16	2013-04-18	2017-06-21
			windsofwarnovel00wouk	3	39	2009-08-10		2011-02-08
			windsofwar00herm_1	3	50	2015-02-04	2015-02-28	2015-10-21
			windsofwarnovel00herm	1	35	2012-07-18	2012-07-18	2012-10-19
			windsofwar00wouk_0	4	66	2013-09-06	2013-09-10	2014-04-04

WIS	Author	Title	Scan Identifier	Max Actual Con-cur-rent Loans	Total Loans	Scan Date	Repub Date	inlibrary Date
126	Wouk, Herman	The Caine Mutiny: A Novel of World War II	cainemutinynovel00woukrich	2	40	2009-07-28		2011-02-08
			cainemutinynovel0000wouk	1	2	2019-09-03	2019-09-05	2019-09-06
			cainemutinynovel00wouk	2	77	2010-01-08		2011-02-09
			cainemutinynovel00wouk_1	5	45	2017-12-11	2017-12-12	2018-02-22
			cainemutinywo00wouk	3	79	2010-08-25		2011-02-08
			cainemutiny00wouk	5	66	2011-09-09		2012-01-23
			cainemutiny00herm	2	38	2013-08-13	2013-08-14	2014-04-04
			cainemutiny0000herm	1	1	2020-03-03	2020-03-07	2020-03-24
127	Zuckerman, Gregory	The Man Who Solved the Market	manwhosolvedmark0000zuck	113	129	2019-12-09	2019-12-11	2019-12-09